

NON-
BIDDING

PROPOSAL

TRANSPORTATION CABINET
Department of Highways
Frankfort, Kentucky 40622

PROPOSAL NO. _____
PROJECT CODE NO. 02-0697

LETTING OF OCTOBER 25, 2002
Sealed Bids will be received in the
Division of Contract Procurement and/or
the Auditorium located on the 1st Floor
of the State Office Building until
10:00 A.M., EDT, on OCTOBER 25, 2002.
Bids will be publicly opened and read
at 10:00 A.M., EASTERN DAYLIGHT TIME.

PROJECT IDENTIFICATION AND DESCRIPTION:

KENTON COUNTY, FD04 059 0017 018-020

Improvements to KY 17 from Dudley Pike to 725 feet north of Highland Avenue, a distance of
0.840 mile.

Grade, Drain, Asphalt Surface and PCC Pavement.

Status Report Item No. 6-350.10.

(6)

GRAPHIC COORDINATES:

LATITUDE - 39° 02' NORTH

LONGITUDE - 84° 32' WEST

COMPLETION DATE ESTABLISHED FOR PROJECT: OCTOBER 1, 2003

LIQUIDATED DAMAGES: SEE STANDARD SPECIFICATIONS

REQUIRED BID PROPOSAL GUARANTY: Not less than 5% of the total bid.

(Check guaranty submitted: Cashier's Check ☐ Certified Check ☐ Bid Bond ☐)

BID BONDS WHEN SUBMITTED WILL BE RETAINED WITH THE PROPOSAL.
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PART

- I SCOPE OF WORK
- II SPECIAL PROVISIONS APPLICABLE TO PROJECT
- III EMPLOYMENT, WAGE AND RECORD REQUIREMENTS
- IV INSURANCE
- V STATEMENT OF INCOMPLETED WORK AND SUBCONTRACTED WORK
- VI BID ITEMS
- VII CERTIFICATION

BID..... ☐ PROPOSAL ISSUED TO: _____

SPECIMEN..... ☐

Address City State Zip

PART I

SCOPE OF WORK

1. Project Detail

- | | |
|--|----------|
| a. See Road Plans | |
| b. Special Notes Applicable to Project | Attached |
| c. Supplemental Specifications | Attached |
| d. Special Notes for Gas Mains | Attached |
| e. Special Notes for Sanitary Sewers | Attached |
| f. Special Notes for Waterline | Attached |
| g. Special Note for Utility Clearance | Attached |
| h. Special Note for Detectable Warnings for Sidewalk Ramps (5-29-02) | Attached |

SPECIAL NOTES APPLICABLE TO PROJECT

2000 SPECIFICATIONS

Any reference in the plans or in the proposal to the *Standard Specifications for Road and Bridge Construction, Edition of 1998*, and Standard Drawings, Edition of 1998 are superseded by *Standard Specifications for Road and Bridge Construction, Edition of 2000*, and Standard Drawings, Edition of 2000.

2001 SUPPLEMENTAL SPECIFICATIONS

The *2001 Supplemental Specifications* to the 2000 Standard Specifications for Road and Bridge Construction shall apply to this project.

PROPOSAL ADDENDA

All Addenda to this proposal must be incorporated into the proposal when the bid is submitted to the Kentucky Department of Highways. Failure to use the correct and most recent bid sheet(s) may result in the bid being rejected.

BID SUBMITTAL

Bidder must use the Department's Highway Bid Program available on the internet web site of Department of Highways, Division of Contract Procurement. (www.kytc.state.ky.us/contract)

The Bidder must download the bid items created from the web site to prepare a bid proposal for submission to the Department. The Bidder must insert the completed bid item sheets printed from the Program into the bidder's proposal and submit with the disk created by said program.

JOINT VENTURE BIDDING

Joint Venture bidding is permissible. However, both companies **MUST** purchase a bidding proposal. Either proposal may be submitted but must contain the company names and signatures of both parties where required. A joint bid bond of 5% may be submitted for both companies or each company may submit a separate bond of 5%.

UNDERGROUND FACILITY DAMAGE PROTECTION

The contractor is advised that the Underground Facility Damage Protection Act of 1994, became law January 1, 1995. It is the contractor's responsibility to determine the impact of the act regarding this project, and take all steps necessary to be in compliance with the provisions of the act.

ASPHALT BASE PRICE

The Asphalt Base Price shall be \$170.00 (English) as applicable in Section 109.07 of the *2000 Standard Specifications*.

SPECIALITY ITEMS (STATE)

The following bid items are hereby designated "Specialty Items" within the meaning of the term as set forth in Subsection 108.01 of the *2000 Standard Specifications*.

Item 108 through Item 139.

SIGNALIZATION, AND LIGHTING.

OPTION A

The Contractor is advised that the compaction of asphalt mixtures furnished for driving lanes and ramps, at 25mm (1 inch) or greater, on this project will be accepted according to **OPTION A** in accordance with Section 402 and Section 403 of the *2000 Standard Specification*. The compaction of all other asphalt mixtures will be accepted by **OPTION B**.

ASPHALT PAVEMENT RIDE QUALITY

Pavement Rideability Requirements shall apply on this project in accordance with Section 410 of the *2000 Standard Specifications*.

**Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2000 Edition
(Effective with the October 25, 2002 Letting)**

Unless stated otherwise, all revisions are to the Standard Specifications for Road and Bridge Construction.

PUBLICATION:	2001 Supplemental Specifications to The Standard Specifications for Road and Bridge Construction.
SUBSECTION:	104.02.02 Overrun and Underrun Formulas.
REVISION:	Void the revision.
SUBSECTION:	104.02.02 Overrun and Underrun Formulas.
REVISION:	Replace the fifth paragraph with the following: For the excessive underrun and overrun quantities, the Department will adjust the payment according to the appropriate following formula:
SUBSECTION:	104.02.02 Overrun and Underrun Formulas.
NUMBER:	3)
REVISION:	Replace the threshold value of 20 percent with 30 percent.
SUBSECTION:	102.07.01 General.
REVISION:	Replace the first sentence with the following: Submit the Bid Proposal on the forms furnished by the Department including the Highway Bid Program bid item sheets and disk created from the Department's internet web site.
SUBSECTION:	102.07.02 Computer Bidding.
REVISION:	Replace the subsection with the following: Subsequent to ordering a Bid Proposal for a specific project, use the Department's Highway Bid Program on the internet web site of the Department of Highways, Division of Contract Procurement. Download the bid item quantities from the Department's web site to prepare a Bid Proposal for submission to the Department. Insert the completed bid item sheets printed from the Highway Bid Program into the Proposal and submit along with the disk created by said program. In case of a dispute, the Bid Proposal and bid item sheets created by the Highway Bid Program take precedence over any bid submittal. Furthermore the Department takes no responsibility for loss, damage of disks or the compatibility with the bidder's computer equipment or software.
SUBSECTION:	102.08 IRREGULAR BID PROPOSALS.
REVISION:	Add the following to the first set of items: 4) Fails to submit a disk created from the Highway Bid Program
SUBSECTION:	102.08 IRREGULAR BID PROPOSALS.
REVISION:	Replace 1) of the second set of items with the following: 1) when the Bid Proposal is on a form other than that furnished by the Department or printed from other than the Highway Bid Program, or when the form is altered or any part is detached.
SUBSECTION:	112.03.01 General Traffic Control.
PART:	I) Temporary Traffic Signals.
REVISION:	Replace the MUTCD reference "Section 4B" with "Chapter 4D"
SUBSECTION:	212.03.03 Permanent Seeding and Protection.
PART:	A) Seed Mixtures for Permanent Seeding.
REVISION:	Replace with the following: A) Seed Mixture for Permanent Seeding. Use seed Mixture No. I or as the Contract specifies. Mixture No. I: 75% Kentucky 31 Fescue (<i>Festuca arundinacea</i>) 10% Red Top (<i>Agrostis alba</i>) 5% White Dutch Clover (<i>Trifolium repens</i>) 10% Rygrass, perennial (<i>Lolium perenne</i>)

**Supplemental Specifications to The Standard Specifications
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SUBSECTION:	212.03.03 Permanent Seeding and Protection.
PART:	C) Crown Vetch.
REVISION:	Replace the first sentence with the following: Sow crown vetch seed on all areas having a slope 3:1 or steeper and consisting of soil or mixtures of broken rock and soil.
SUBSECTION:	212.03.03 Permanent Seeding and Protection.
PART:	E) Erosion Control Blanket.
REVISION:	Replace the first sentence with the following: Install erosion control blankets in ditches, except those to be paved or rock lined, to a flow depth of 1.5 feet.
SUBSECTION:	402.03.02 Acceptance.
PART:	C) Setup.
REVISION:	Add the following after the second sentence: For mixtures with a total-project quantity between 500 and 1,000 tons, perform a minimum of one process control test for AC, AV, and VMA, and report the results to the Engineer.
SUBSECTION:	402.03.03 Verification.
REVISION:	Replace the first two sentences with the following: For volumetric properties, the Department will perform a minimum of one verification test for AC, AV, and VMA for each lot according to the corresponding procedures as given in Subsection 402.03.02. For specialty mixtures, the Department will perform one AC and one gradation determination per lot according to the corresponding procedures as given in Subsection 402.03.02. However, Department personnel will not perform AC determinations according to KM 64-405.
SUBSECTION:	403.02.06 Transport Equipment.
REVISION:	Add the following after the first sentence: Do not load trucks that are contaminated with an unapproved release agent. When such contamination is identified after loading, reject the load. In either case, remove the truck and respective driver from the project for the duration of the project.
SUBSECTION:	403.03.03 Preparation of Mixture.
PART:	A) Mixture Composition.
REVISION:	Replace the second sentence with the following: Conform to the gradation requirements (control points) of AASHTO MP2 for the Superpave mixture type the Contract specifies.
SUBSECTION:	403.03.03 Preparation of Mixture.
PART:	C) Mix Design Criteria.
REVISION:	Replace the first sentence with the following: Conform to the gradation requirements (control points) of AASHTO MP2 for the Superpave mixture.
SUBSECTION:	403.03.03 Preparation of Mixture.
PART:	C) Mix Design Criteria.
NUMBER:	2) Selection of Optimum AC.
REVISION:	Add the following: Ensure the optimum AC is a minimum of 5.0 percent by weight of the total mixture for all 0.5-inch nominal surface mixtures and 5.3 percent by weight of the total mixture for all 0.38-inch nominal surface mixtures.
SECTION:	403.03.06 Thickness Tolerance.
TABLE:	Nominal Maximum Size of Mixture vs. Thickness Range
REVISION:	Delete

**Supplemental Specifications to The Standard Specifications
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SUBSECTION:	403.03.09 Leveling and Wedging, and Scratch Course.																			
PART:	A) Leveling and Wedging.																			
REVISION:	Replace the first sentence with the following: Conform to the gradation requirements (control points) for base, binder, or surface as applicable.																			
SUBSECTION:	403.03.09 Leveling and Wedging, and Scratch Course.																			
PART:	B) Scratch Course.																			
REVISION:	Replace the second sentence with the following: Conform to the gradation requirements (control points) for base, binder, or surface as the Engineer directs.																			
SECTION:	404 OPEN-GRADED FRICTION COURSE																			
TABLE:	LOT PAY ADJUSTMENT SCHEDULE FOR SPECIALTY MIXTURES																			
REVISION:	Replace the table with the table on the last page of this supplement.																			
SUBSECTION:	409.02 MATERIALS AND EQUIPMENT.																			
REVISION:	Replace "KM 64-427" with the following: the guidelines in Subsection 409.03.02																			
SUBSECTION:	409.03.01 Restrictions.																			
REVISION:	Add the following sentence: When the mixture's bid item specifies PG 76-22, limit RAP content to 20 percent or less.																			
PUBLICATION:	2001 Supplemental Specifications to The Standard Specifications for Road and Bridge Construction.																			
SUBSECTION:	409.03.02 Preparation of Mixture.																			
PART:	A) Mix Requirements.																			
REVISION:	Void the Revision and replace with the following: Conform to the Contract requirements for each mixture produced using RAP. If mixtures produced using RAP do not conform to the requirements for that mixture, complete the project using all virgin materials at no additional expense to the Department. Conform to the following table to select the appropriate grade of virgin asphalt binder to blend with the RAP:																			
<table><tr><th rowspan="2">Mixture's Bid Item</th><th colspan="3">Appropriate Virgin Asphalt Binder</th></tr><tr><th>0-20% RAP</th><th>21-30% RAP</th><th>>30% RAP</th></tr><tr><td>PG 76-22</td><td>PG 76-22</td><td>-</td><td>-</td></tr><tr><td>PG 70-22</td><td>PG 70-22</td><td>PG 64-22</td><td>*</td></tr><tr><td>PG 64-22</td><td>PG 64-22</td><td>PG 64-22</td><td>*</td></tr></table> <p>* Select according to KM 64-427</p>		Mixture's Bid Item	Appropriate Virgin Asphalt Binder			0-20% RAP	21-30% RAP	>30% RAP	PG 76-22	PG 76-22	-	-	PG 70-22	PG 70-22	PG 64-22	*	PG 64-22	PG 64-22	PG 64-22	*
Mixture's Bid Item	Appropriate Virgin Asphalt Binder																			
	0-20% RAP	21-30% RAP	>30% RAP																	
PG 76-22	PG 76-22	-	-																	
PG 70-22	PG 70-22	PG 64-22	*																	
PG 64-22	PG 64-22	PG 64-22	*																	
SUBSECTION:	611.03.02 Precast Unit Construction.																			
REVISION:	Replace the first sentence with the following: Construct units according to ASTM C 1433 with the following exceptions and additions:																			
PUBLICATION:	2001 Supplemental Specifications to The Standard Specifications for Road and Bridge Construction.																			
SUBSECTION:	701.03.05 Joints.																			
PART:	B) Corrugated Metal Pipe.																			
REVISION:	Void the Revision and replace with the following: Construct joints using a band with annular corrugations and a bolt, bar and strap connection. Use a minimum nominal band width of 12 inches for all pipe diameters 54 inches and smaller. Use a two-piece band with a minimum nominal width of 20 inches for all pipe diameters greater than 54 inches. Manufacture the band from the same base materials as the pipe. The pipe bands may be up to two gauges lighter than the pipe it is joining, with a minimum gauge thickness of 16. The Department may allow dimple band connections for field cut pipe. Install the connecting bands according to the manufacturer's written recommendations.																			

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SUBSECTION:	710.02 MATERIALS.
REVISION:	Add the following Subsection: 710.02.15 High Density Polyethylene (HDPE) Adjusting Rings. Conform to Section 846.
SUBSECTION:	710.03.01 Newly Constructed Small Drainage Structures.
PART:	A) General.
REVISION:	Replace the last sentence of the sixth paragraph with the following: Use precast concrete, precast concrete pipe sections, cast-in-place, brick, or HDPE adjusting rings for adjustment of existing manholes according to the Standard Specifications.
SUBSECTION:	710.03.03 Adjusted Small Drainage Structures.
REVISION:	Add the following sentence to the end of the first paragraph: For HDPE adjusting rings, install and seal according to the manufacturer's recommendations.
SUBSECTION:	713.03 CONSTRUCTION.
REVISION:	Replace the MUTCD references to "Part III" with "Part 3"
SUBSECTION:	714.03 CONSTRUCTION.
REVISION:	Replace the MUTCD references to "Part III" with "Part 3" and figure references to "3-11 and 3-12" with "3B-8 and 3B-9"
SUBSECTION:	714.03.01 Layout.
REVISION:	Replace the MUTCD reference to "Part III" with "Part 3"
PUBLICATION:	2001 Supplemental Specifications to The Standard Specifications for Road and Bridge Construction.
SUBSECTION:	714.05 PAYMENT.
REVISION:	Replace with the following: The Department will make payment upon completion of the work. If after the proving period the markings do not meet minimum retroreflectivity requirements, the Department will adjust the payment or require corrective work according to the following:
SUBSECTION:	718.01 DESCRIPTION.
REVISION:	Replace the second sentence with the following: See Section 3C.01 of the MUTCD for a general description.
SUBSECTION:	807.02.03 Joint Sealer for Ridged Pipe.
PART:	B) Rubber Gaskets.
REVISION:	Replace with the following: B) Butyl Rubber Sealants. Furnish butyl rubber sealants conforming to the materials, manufacture, and physical requirements for sealants in AASHTO M 198, Section 6.2. Use only products from the Department's List of Approved Materials.
SUBSECTION:	807.02.03 Joint Sealer for Ridged Pipe.
PART:	C) Flexible Plastic Gaskets.
REVISION:	Replace with the following: C) Rubber Gaskets. Furnish rubber gaskets conforming to the materials, manufacture, and physical requirements for gaskets in AASHTO M 315. Use only products from the Department's List of Approved Materials.

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SECTION: 846 HIGH DENSITY POLYETHYLENE (HDPE) ADJUSTING RINGS
REVISION: Add the following New Section:

SECTION 846 HIGH DENSITY POLYETHYLENE (HDPE) ADJUSTING RINGS

846.01 RESIN. Use a recycled polyethylene plastic or virgin resin producing a molded part meeting the following requirements:

Melt Flow Index (ASTM D 1238)	4.0-10.0 g/10min
Density (ASTM D 792)	0.941-0.965 g/cm ³
Tensile (ASTM D 638)	2000-5000 lb/in ²
ESCR (ASTM D 1693)	Condition C

846.02 LOADING. Ensure the adjustment rings meet or exceed the loading requirements of AASHTO'S Standard Specification for HS-25 wheel loading for Highway Bridges.

SECTION: 827.04 PERMANENT SEED.
REVISION: Replace with the following:

827.04 PERMANENT SEED. Conform to the requirements outlined in the "Kentucky Seed Law and Provisions for Seed Certification in Kentucky" and the "Regulations under the Kentucky Seed Law", with following exceptions:

1. Obtain seed only through registered dealers that are permitted for labeling of seed.
2. Ensure all deliveries/shipments of premixed seed are accompanied with a master blend sheet.
3. The Department may sample the seed at the job site at any time.
4. Ensure all bags and containers have an acceptable seed tag attached.

Do not use seed (grasses, native grasses and legumes) if the weed seed is over 2%, total germination (including hard seed) is less than 60%, if the seed test date is over 9 months old exclusive of the month tested, or if the limits of noxious weed seed is exceeded.

Ensure that noxious weed seeds contained in any seed or seed mixture does not exceed the maximum permitted rate of occurrence per pound.

<u>Name of Kind</u>	<u>(per pound)*</u>	<u>Max. No. Seeds</u>
Balloon Vine (Cardiospermum Halicacabum)	0	
Purple Moonflower (Ipomoea turbinata)	0	
Canada Thistle (Cirsium Arvense)	0	
Johnsongrass (Sorghum Halepense and Sorghum Almum and perennial rhizomatous derivatives of these species)	0	
Quackgrass (Elytrigia Repens)	0	
Annual Bluegrass (Poa Annua)	256	
Buckhorn Plantain (Plantago lanceolata)	304	
Corncockle (Agrostemma Githago)	192	
Dodder (Cuscuta spp.)	192	
Giant Foxtail (Setaria Faberii)	192	
Oxeye Daisy (Chrysanthemum leucanthemum)	256	
Sorrel (Rumex Acetosella)	256	
Wild Onion and Wild Garlic (Allium spp.)	96	

* Seed or seed mixtures that contain in excess of 480 total noxious seeds per pound is prohibited

Wildflower seed shall not be planted until approved by the MCL.

**Supplemental Specifications to The Standard Specifications
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LOT PAY ADJUSTMENT SCHEDULE FOR SPECIALTY MIXTURES (TEST DEVIATION FROM JMF)		
	Pay Value	Deviation From JMF (%)
Asphalt Binder Content	1.00	0.0-0.5
	0.98	0.6
	0.95	---
	0.90	0.7
	0.85	0.8
	0.75	≥ 0.9
1 1/2 inch Sieve	1.00	0-13
	0.98	14
	0.95	15-16
	0.90	17-20
	0.85	21-23
	0.75	≥ 24
1 inch, 3/4 inch, and 1/2 inch Sieves	1.00	0-9
	0.98	10
	0.95	11-12
	0.90	13-14
	0.85	15-16
	0.75	≥ 17
3/8 inch, No. 4, No. 8, No. 16, and No. 30 Sieves	1.00	0-8
	0.98	9
	0.95	10
	0.90	11-12
	0.85	13-14
	0.75	≥ 15
No. 50 Sieve	1.00	0-6
	0.98	7
	0.95	8
	0.90	9
	0.85	10
	0.75	≥ 11
No. 100 Sieve	1.00	0-3
	0.98	---
	0.95	4
	0.90	5
	0.85	---
	0.75	≥ 6
No. 200 Sieve	1.00	0.0-2.0
	0.98	2.5
	0.95	3.0
	0.90	---
	0.85	3.5
	0.75	≥ 4.0
Fineness Modulus	1.00	0.0-0.30
	0.98	0.31-0.34
	0.95	0.35-0.39
	0.90	0.40-0.46
	0.85	0.47-0.55
	0.75	≥ 0.56

GAS MAINS

SPECIFICATIONS AND DESCRIPTION OF BID ITEMS

For Facilities To Be Installed For:
Cinergy Corporation/The Union Light, Heat and Power Company

Special Note: Installation of gas facilities on this project is limited to the following nine contractors due to their prequalification for such work with Cinergy/ULH&P:

1. AMS Construction
2. Brewer Company
3. Byrnes-Conway Company
4. CJ Hughes
5. Michels Construction
6. Miller Pipeline
7. Infrsource Underground
8. Subsurface
9. ULC (Asplundh Union)

At the end of these specifications is a phone list for the Cinergy approved contractors.

1. SCOPE OF WORK

The scope of the work consists of locating utilities, excavating trench in earth or rock, welding or fusing pipe, pressure testing pipe, bedding and placing the main in the trench, backfilling the gas main pipe, installing main-to-curb service piping, re-connecting services, installing cased road crossings, and performing gas main tie-ins and restoration as necessary. Cinergy/ULH&P shall provide all pipe, pipe fittings, and valve materials, as well as a construction inspector. The contractor shall provide all labor, equipment, pipe bedding, trench backfill, and restoration materials necessary to complete the gas main relocation as shown on the gas construction plans in the roadway construction set. **Cinergy/ULH&P will inspect all pipe installation and tie-ins by the contractor. Cinergy/ULH&P reserves the right to perform all tie-ins to the existing gas main.** The road contractor must have the length of the proposed gas main alignment substantially close to final grade before the Gas Contractor can start the gas main installation. Cinergy/ULH&P will stake the alignment of the gas main along with cut depths to the top of the proposed gas main. **The Road Contractor is required to give Cinergy/ULH&P ten working days notice prior to the gas contractor's scheduled start date.**

In addition to the following specifications, all work shall be performed in accordance with Cinergy/ULH&P General and Technical Provisions For Steel Welded Gas Lines and Plastic Gas Distribution Systems, Form GD-150 (Composite). These General and Technical Provisions shall be made a part of this project contract by reference. Copies are available from Cinergy/ULH&P. Where the following specifications and those contained in Cinergy/ULH&P General and Technical Provisions For Steel Welded Gas Lines and Plastic Gas Distribution Systems, Form GD-150 (Composite) are in conflict, the following specifications shall govern and take precedence.

2. DEFINITION OF "ENGINEER"

Where the word "Engineer" appears in these specifications or in the gas plans, it shall be understood the "Engineer" is the Kentucky Department of Highways Resident Engineer or his designated representative and the Cinergy/ULH&P engineer or his designated representative jointly. All decisions made by the Department with regard to gas line construction shall be agreeable to Cinergy/ULH&P and vice versa.

3. DESCRIPTION OF BID ITEMS

1. Plastic Gas Main (All Sizes)

This item shall include all labor, equipment, and materials (excluding pipe and fittings) necessary to install the gas main. Installation of gas main by open cutting shall include excavating the trench to the proper depth and width, stringing the pipe along trench, fusing the pipe, lifting the fused pipe into trench and placing encasement pipe and pushing the pipe through encasement at state road crossings, bedding the pipe, installing tracer wire and test boxes along the pipe, installing valves, backfilling the trench, and pressure testing the main in accordance with the plans and specifications.

2. SWPC Gas Main (All Sizes)

This item shall include all labor, equipment, and material (excluding pipe and fittings) necessary to excavate the trench to the proper depth and width, string pipe along trench, weld pipe, inspect/radiograph welds (if feeder or transmission line), lift welded pipe into trench, bed the pipe, install valves, install anodes and test boxes, backfill the trench, pressure testing, and hydrostatically testing welded pipe (if feeder or transmission line) in accordance with the plans, specifications, and Cinergy Gas Standards.

3. Main-to-Curb Short Side Service

This item shall include all labor, equipment, and materials, necessary to install the gas service. This bid item includes installing 4 inch x 1 inch plastic stab tee, 1 inch plastic cap (at tee and end of service), plastic curb box (bottom and top), curb box lid, and necessary 1 inch plastic pipe with tracer wire. This item also includes air testing service and tapping tee. Services shall be installed with a 12-inch horizontal separation from the existing service.

4. Main-to-Curb Long Side Service

This item shall include all labor, equipment, bedding material, restoration materials, traffic control materials, and trench shoring material, to install the gas service. This bid item includes installing 4 inch x 1 inch plastic stab tee, 1 inch plastic cap (at tee and end of service), plastic curb box (bottom and top), curb box lid, and necessary 1 inch plastic pipe with tracer wire. This item also includes air testing service and tapping tee. Services shall be installed horizontally with a 12-inch separation from the existing service and vertically at or below the depth of the main across the road.

5. Tie-In New Gas Main to Existing Gas Main

This item shall include all labor, equipment, and material (excluding pipe, fittings, and stoppling equipment) necessary to align and tie-in proposed new plastic or new steel gas mains to existing plastic or steel gas mains at the locations shown on the construction plans. Cinergy/ULH&P reserves the right to have its company crews perform this tie-in work. A Cinergy/ULH&P construction inspector and a pressure crew must be present at tie-ins performed by the gas contractor.

3. MATERIALS

1. Pipe Bedding

Pipe bedding shall meet the requirements for Pipe Bedding as contained in Kentucky Department of Highways, Standard Specifications for Road and Bridge Construction.

2. Low Strength Mortar

Low Strength Mortar fill shall meet the requirements of the Kentucky Department of Highways, Standard Specifications for Road and Bridge Construction.

3. Surface Restoration Materials (Temporary and Permanent)

All restoration materials shall meet the requirements of the appropriate sections of Kentucky Department of Highways, Standard Specifications for Road and Bridge Construction.

5. TRENCH EXCAVATION AND PIPE PLACEMENT

The trench shall be excavated to the depth staked by Cinergy/ULH&P's survey crew plus the additional depth to accommodate the main outside diameter and a minimum of 4 inches of bedding material below the pipe. The gas main profiles show the proposed Station, Offset, and Elevation of the proposed gas mains. Plastic mains crossing state roadways shall be encased in steel pipe of sufficient diameter (see GD-150) to contain the main or be backfilled with Low Strength Mortar to the top of subgrade. The minimum trench width shall be 24 inches + the outside diameter the gas pipe. The contractor shall string the pipe along the trench and fuse the pipe. Services shall be installed with a minimum horizontal separation from the existing service of 12 inches.

Once the pipe has been fused or welded, the contractor shall lift and carefully lower the pipe into the center of the trench. The contractor is cautioned to handle the pipe carefully so as to minimize damage to the pipe. Additional bedding material shall be placed around the pipe and compacted in equal lifts so as to avoid lateral displacement. Bedding material shall be placed in lifts not to exceed 6 inches compacted depth. Bedding material shall be placed to a level approximately 12 inches above the pipe barrel. Bedding material shall not exceed the approximate 12 inches level over the pipe barrel. The bedding material under, around, and over the pipe shall be compacted using a hand operated vibratory compactor.

Traffic of heavy equipment over the existing or newly installed gas main or service shall be minimized to avoid possible damage to the pipe. Construction traffic should cross perpendicular to the existing or newly installed gas main or service at locations where there is at least 2-feet of cover over the main.

6. PIPE JOINING QUALITY ASSURANCE

Utility owner will, at their option, inspect the welding and fusing process of joining pipe. Any joint or fitting that is visibly inspected as being defective or for any other reason believed not to be satisfactorily installed will be removed for testing.

7. TRENCH BACKFILL

Once the pipe has been placed, trench excavated material or flowable fill shall be used to backfill the remainder of the trench. Trench excavated material shall be placed in the trench and shall be compacted to 95% maximum standard Proctor density with hand operated equipment. The contractor may use Low Strength Mortar fill for trench backfill at his option. ***Granular material shall not be used as trench backfill.***

8. RESTORATION

1. Temporary Restoration

Any temporary restoration necessary to maintain traffic and insure public safety shall be performed to the satisfaction of the Engineer. The Engineer shall approve all temporary restoration materials and their placement. The contractor will be responsible for maintenance of temporary restoration until permanent restoration is accomplished.

2. Permanent Restoration

All areas, which are disturbed during gas main construction, which are outside of road construction limits, shall be replaced in-kind. The Engineer shall approve all permanent restoration materials and their placement. All permanent restoration materials and their placement shall meet the requirements of the appropriate sections of Kentucky Department of Highways, Standard Specifications for Road and Bridge Construction

9. METHOD OF MEASUREMENT

Gas Main Specifications and Description of Bid Items (Continued)

1. Plastic and Steel Gas Main

Each size of each pipe kind shall be measured along the centerline of the pipe through fittings and casements from end to end. Where the pipe changes size or kind, the particular size pipe shall be measured to the center of the transition fitting, coupling or weld.

10. BASIS OF PAYMENT

1. Plastic Gas Main

Paid per Linear Foot (LF) per size installed. No additional payment will be made for rock excavation.

2. Steel Gas Main

Paid per Linear Foot (LF) per size installed. No additional payment will be made for rock excavation.

3. Authorized Test Fusions and Test Welds

No separate payment will be made for authorized testing of fused or welded joints. This work shall be considered incidental to gas main construction.

4. Main-to-Curb Short-Side Service

Payment is to be made under this item when the service to be installed does not cross the roadway. No additional payment will be made for rock excavation. Paid Each (Ea.) when complete.

5. Main-to-Curb Long-Side Service

Payment is to be made under this item when the service to be installed crosses the roadway. No additional payment will be made for rock excavation. Paid Each (Ea.) when complete.

6. Tie-In New Gas Main to Existing Gas Main

Payment is to be made for each tie-in of proposed new plastic or steel gas main to existing plastic or steel gas main. No additional payment will be made for rock excavation.

7. Restoration

No separate payment will be made for the furnishing and placement of temporary or permanent restoration materials. This work shall be considered incidental to gas main construction.

8. Maintenance of Traffic

No separate payment will be made for maintaining and controlling traffic. This work shall be considered incidental to gas main construction.

9. Low Strength Mortar

No separate payment will be made for Low Strength Mortar fill when the material is being used at the contractor's convenience. If the Engineer directs the use of Low Strength Mortar fill, the Engineer will arrange payment to the contractor based upon a mutually agreed on unit price.

10. Bedding Material

No separate payment will be made for bedding material. The furnishing and placement of bedding material by the contractor shall be considered incidental to gas main construction.

11. Valve Assembly's

No separate payment will be made for the placement of valves. This work shall be considered incidental to gas main construction.

12. Steel Casing at State Road Crossings

No separate payment will be made for the placement of steel pipe casing at road crossings. This work shall be considered incidental to gas main construction.

Gas Main Specifications and Description of Bid Items (Continued)

13. Extra Depth

No separate payment will be made for extra depth excavation shown on the plans. Extra depth excavation shall be considered incidental to gas main construction.

14. Rock Excavation

No separate payment will be made for rock excavation. Rock excavation shall be considered incidental to gas main construction. The bidder/contractor shall draw their own conclusion as to the conditions to be encountered based on the geotechnical data on the road project drawings.

Cinergy Prequalified Gas Contractor Phone Numbers (REVISED 9/26/02)

Ams Construction

8915 Blue Ash Road
Cincinnati Ohio 45242
Office - 513-794-0410
Fax- 513-794-0414

Kim Stephenson 513-503-9370
Ed Sendelbach 513-503-9366

Brewer Company

1354 US Highway 50
Milford, Ohio 45150
Office - 513-576-6300
Fax- 513-576-1414

Carl Bergen 513-646-3833
Pager 513-844-5906
Ken Parker 1-490-9070
Charles McCann 513-314-6188
Pager 513-920-0420

Byrnes-Conway

21 Byrneslake Ct.
Cincinnati, Ohio 45216-1605
Office - 513-948-8882
Fax 513-948-0161

Marty Sweeney 513-383-7782
Bob Sanders 513-617-2110
Leo Sherman 513-617-2117
Rick Ward 513-383-2351

CJ Hughes

PO Box 7305
Huntington, West Virginia 25776
Office - 1-304-522-3868
Fax - 304-522-2729

David Hughes 1-304-633-7412
Fred Nicholson
24 Hour number 513-477-3967

Michels Construction

2290 Seymore Avenue
Cincinnati, OH 45212
Office - 513-531-5999
Fax - 513-531-6071

Jeff Hall 1-717-319-4057

Miller Pipeline

4990 Scioto-Darby Road
Hilliard Ohio 43026
Office 1-614-777-8377
Fax- 614-777-4224
24 Hr. Number 513-679-2362

Scott Miller 1-614-270-6042
Pager 1-614-520-6428
Steve Ferrell 1-614-270-6048
Pager 1-614-520-6184
(Local #) 513-200-4775
Rich Boles 513-623-1424

Infrasource Underground

4033 E. Morgan Rd.
Upsilon, Michigan 48197
Office- 734-434-2000
Fax- 734-434-2001

Jerry Kennedy 734-417-4829
Steve Parnicky 513-768-3096
Russ Doersch 1-734-417-4800

Sub Surface

5704 St. Rt. 128 (Crescentville Rd.)
Cleveland, OH 45002
Office - 513-353-1604
Fax - 513-353-1606

Rick Rizardi- 513-623-5854
Don Deal - 513-623-5852

ULC (Asplundh Union)

1118 Ferris Road, Suite A
Amelia, OH 45102
Office 513-943-7999
Fax 513-943-7999

Sal Dillillo 513-739-7999
Ken Leach 513-309-5834

SANITATION DISTRICT NO. 1

TECHNICAL SPECIFICATIONS

FOR

SANITARY SEWERS

EDITED BY KYTC FOR PROJECT ITEM NO. 06-350.10

1. Scope of Work

A. General

The work to be performed consists of the furnishing of all materials, equipment, tools, supplies, services, labor and installation, complete, of the sewers and appurtenances as shown on the plans and contract documents and as may be further set out in any Special Provisions, Addenda and Change Orders.

B. Description of Bid Items

1) Reconstruct Sanitary Manhole

Payment shall be made under this item when a manhole casting requires raising or lowering in an amount in excess of eight inches (8"). Adjustment shall be accomplished by furnishing and inserting or removing and/or replacement of manhole barrel sections to achieve the needed adjustment. This item shall also include furnishing and installation or removal of adjusting rings as necessary. Adjustments in excess of eight inches (8") cannot be made through use of adjusting rings only. This item shall include all labor and material to accomplish this item of work in compliance with the specifications complete and ready for use. This item paid EACH when complete.

2) Adjust Sanitary Manhole

Payment shall be made under this item when a manhole casting requires raising or lowering in an amount less than eight inches (8"). Adjustment shall be accomplished by furnishing and installation or removal of adjusting rings as

necessary. This item shall include all labor and material to accomplish this item of work in compliance with the specifications complete and ready for use. This item paid EACH when complete.

C. Definitions

1) Engineer

Where the word "engineer" is used in these specifications, it shall mean the KYTC Resident Engineer or his inspector AND Sanitation District No. 1 Engineer or his inspector jointly. All decisions made relative to sanitary sewer work shall be agreeable to both entities. Where disputes arise, the KYTC Resident Engineer shall make final decisions.

2. Materials

A. Concrete

All concrete shall be ready-mixed, meeting A.S.T.M. Specification C-94 and as set out in the specifications hereinafter, unless otherwise approved by the Engineer. The classes of concrete required and the items to be constructed of the various classes of concrete are as follows:

- 1) Class "A" - any reinforced concrete construction, manholes, piers, sewer bridges and special structures as detailed, unless otherwise called for on plans or in the specifications. Class "A" concrete shall have a minimum twenty-eight (28) day compressive strength of three thousand five hundred (3,500) psi.
- 2) Class "B" - encasement around pipes and risers, trench blocking for connections, cradles, collars and unreinforced concrete construction, unless otherwise called for on plans or in the specifications. Class "B" concrete shall have a minimum twenty-eight (28) day compressive strength of two thousand five hundred (2,500) psi.
- 3) Class "C" - concrete fill as called for on plans or in the specifications. Class "C" concrete shall have a minimum twenty-eight (28) day compressive strength of one thousand one hundred (1,100) psi.
- 4) See Technical Specifications for Concrete for details of mixture.

Where class of concrete is not called for on the plans or elsewhere in the specifications, the class shall be "A".

B. Mortar and Grout

All mortar and grout shall be mixed in the following proportions:

- 1) Mortar for pipe joints: 1 part cement, 1-1/2 parts sand.
- 2) Mortar for brick laying: 1 part cement, 2 parts sand.
- 3) Mortar for plastering or finishing: 1 part cement, 1-1/2 parts sand.
- 4) Grout: 1 part cement, 1 part sand.

All cement shall be portland cement, Type 1 A or III A, meeting A.S.T.M. Specification C -175. Sand shall be clean and washed, meeting A.S.T.M. Specification C-33. Mixing shall be in a suitable mixer or watertight mixing box. The materials must be thoroughly mixed dry until a uniform color and texture is obtained, then just enough clean water added to bring the mixture to a workable consistency. The mixture shall not contain any lumps and shall not be used if it has begun to set. No retempering will be permitted.

If special mortars or grouts are called for, they shall be used in lieu of above mixes.

C. Resilient Joint Materials

All resilient materials for joint closures shall conform to A.S.T.M. Specifications C-425 and C-443. The type shall be as specified under the construction units, unless otherwise specified.

D. Precast Manhole Sections

Where precast manhole sections are required, they shall conform to A.S.T.M. Specification C-478, with such additional requirements as may be set forth on the plans, details or Special Provisions.

Joints between sections shall be bell and spigot or tongue and groove type with O-ring gaskets conforming to A.S.T.M. Specification C-443 or flexible butyl rubber joint sealant.

E. Manhole Steps

All manhole steps shall be steel reinforcing rod encapsulated in polypropylene plastic conforming to the requirements of A.S.T.M. Specification C-478.

Steel rods shall be three-eighths (3/8) inch minimum diameter conforming to A.S.T.M. Specification A-615.

F. Manhole Frames and Covers and Other Iron Castings

All manhole frames and covers shall be of cast iron, conforming to A.S.T.M. Specification A-48, Class 30 or better. Neenah Foundry Company R-1733 or equal, shall be considered standard, with the words "SANITARY SEWER" cast in all covers, plainly visible. In addition, each frame shall have four (4) one (1) inch diameter holes equally spaced for attachment of the frame to the manhole. Other types of frames and covers and other details shall be as shown on the plans or described in the Special Provisions. All lids shall be interchangeable with existing frames.

G. Brick

All brick used in sewers or in direct contact with sewage shall be of clay or shale, conforming to A.S.T.M. Specification C-32, Grade MA or better.

All brick used in manholes and structures that will not be in direct contact with sewage may be of concrete, conforming to A.S.T.M. Specification C-55, Grade A. Where concrete blocks are used in manholes and structures, they shall conform to A.S.T.M. Specification C-139, solid units, interlocking type.

H. Excavation Material for Compacted Backfill

Any material from excavation of trenches which are desired to be used for (a) replacement of unsuitable subgrade or foundation material, rock, shale or other material removed below pipe elevations; (b) pipe bedding; or (c) backfill above pipes which is to be compacted, shall be clean and shall be of such composition that said material can be compacted to at least ninety-five percent (95%) Standard Procter density as per A.S.T.M. Specifications D- 698.

3. Excavation

A. General

The contractor shall perform all excavation, including clearing and grubbing, necessary or required, for the construction of the sewers and appurtenances. The excavation shall include the removal and disposal of all materials of whatever nature encountered, including water and all obstructions that would interfere with the proper construction and completion of the sewers and appurtenances. Excavation

techniques shall conform to all safety standards set by the Occupational Safety And Health Administration (OSHA). A competent person shall be designated on site for all excavation and trenching operations.

B. Appurtenances

The excavation for manholes and other appurtenances from the ground surface to the bottom of the appurtenance shall be of the width necessary to provide a minimum clearance of twelve (12) inches from the outside of the appurtenances to the sides of the excavation to provide proper working space and maintain natural stability of the sides of the excavation. If natural stability is not sufficient within the limits of the sewer easement or working limits allowed, the sides of the excavation shall be shored or sheeted and braced, or a trench box shall be utilized.

4. Backfilling

After the manhole sections have been placed, the excavation shall be backfilled as outlined below:

A. Compacted Backfill

Where the manhole is located in an improved area such as lawns, landscaped areas, engineered fill, a paved street, road, parking lot, parallel to a pavement edge or structure that is closer to the edge of the trench than the trench depth dimension, in an area to be paved immediately after sewer construction is completed, where the ground surface slopes greater than forty percent (40%) in the same direction as the sewer centerline, or where indicated on the plans or directed by the Engineer, the backfill above the pipe bedding shall be deposited in layers approximately six (6) inches thick by hand or approved mechanical means and mechanically tampered to a Standard Procter density of not less than ninety-five percent (95%) per A.S.T.M. Specification D-698 up to existing ground level or finished subgrade level if same has been established. The top of the backfill shall be struck off at a level three (3) inches above existing ground level or established finished subgrade level.

The backfill material shall be excavated material if it meets the requirements set forth under Section 2, Item H. Excavation Material for Compacted Backfill. If excavated material will not meet these requirements, the backfill material shall be disposed of by the contractor and material meeting specifications shall be acquired. The disposal of unsuitable material and the acquisition of suitable material shall be considered incidental to the contract.

In areas designated on the plans or as required by other agencies, controlled low

strength material (CLSM) shall be used. The CLSM mix shall meet the specifications of the Kentucky Transportation Cabinet.

Compaction and CLSM shall be tested by the Kentucky Transportation Cabinet. Any material failing the test shall be removed and replaced or re-compacted until it passes.

5. Manholes and Appurtenances

A. General

Manholes shall be adjusted or reconstructed at the locations shown on the plans or as directed by the engineer.

Manholes shall be installed to conform to the following convention unless otherwise called for on the plans. Final dimensions shall be determined after grading has taken place.

- 1) Manholes in roads, parking lots, paved areas and lawns shall be installed flush with the surrounding area.
- 2) Manholes in wooded or other inaccessible areas shall be installed twelve (12) inches above the final grade.
- 3) Manholes in cultivated fields, hay fields and pastures shall be installed with the cone section flush with the final grade. After installation of the casting, a slope fill with a ten (10) foot diameter shall be installed to make the top of the casting flush with the fill.

The manholes shall be constructed of the materials hereinafter set forth and shall be of watertight construction. Appurtenances other than manholes shall be constructed according to details shown on the plans and as called for elsewhere in the specifications.

B. Manhole Barrels and Cones

All barrels and cones for standard and drop manholes shall be precast reinforced concrete sections.

The barrel sections shall be of the height required, but not less than one (1) foot in height. No opening shall be cut into a barrel section, the maximum dimension of which exceeds one-half (1/2) the section height.

The cone sections shall be concentric, taper uniformly from the barrel section diameter

to the frame opening diameter unless otherwise approved by the engineer. Cone sections shall not exceed three (3) feet in height.

When a manhole height is to be less than the combined height of the base section, cone and casting, a cone section shall not be used. A top slab meeting A.S.T.M. Specification C-478 and as shown on the detail sheet shall be used. The frame opening in the slab shall be offset and located over the steps.

Joints between sections shall have O-ring gaskets conforming to A.S.T.M. Specification C-443 or shall be formed with flexible butyl rubber joint sealant. Butyl rubber sealant shall be applied as one section is lowered upon the other.

Where joints are formed using flexible butyl rubber sealant, contact areas shall be either free of moisture or coated with the manufacturers recommended priming compound. The flexible joint sealant shall be applied around the outside joint section and the inside joint section shall be pointed with cement mortar to a smooth finish. When flexible joint sealant is applied to both the outside and inside joint section, excess sealant shall be trimmed off flush with the manhole walls and removed after the manhole sections have been completely settled. When flexible joint sealant is applied to both the inside and outside of the joint section cement mortar is not required.

D. Manhole Fittings

Each manhole shall have steps, spaced at sixteen (16) inches on centers. Each manhole shall have a cast iron frame and cover set concentrically on top of the cone section, or top slab if used. The frame shall be set in a bed of butyl rubber sealant and after setting anchored with four (4) five-eighths (5/8) inch diameter stainless steel bolts. Bolts of manholes in pavement shall be tape wrapped to protect them from paving materials.

One piece precast concrete risers may be used for grade adjustment between four (4) inches and eight (8) inches in height and must also be set concentrically on top of the cone section or top slab if used. The riser shall be set in a bed of butyl rubber sealant and this joint shall be pointed with cement mortar to a smooth finish unless a second row of sealant is installed. The casting frame shall be installed on the riser as previously described with four (4) five-eighths (5/8) inch diameter stainless steel bolts extending through the riser and into the cone section or top slab. The riser and cone may also be drilled with four (4) equally spaced five-eighths (5/8) inch diameter holes and four (4) No. 5 steel reinforcement bars installed and left flush with the riser top to prevent lateral movement and the casting frame bolted to the riser as previously described.

In lieu of concrete risers, High Density Polyethylene Manhole Adjusting Rings as manufactured by Ladtech Inc. or an approved equal are to be used to adjust up to eight (8) inches. Casting must be bolted through the adjusting rings to the cone section with four (4) equally spaced five-eighths (5/8) inch diameter threaded stainless steel rods with lead anchors.

E. Backfilling

Backfilling around manholes and appurtenances shall be done as described in previous sections. Backfilling shall not be done until all concrete has gained initial strength and the Engineer has inspected the exterior of the manhole and approved same.

10. Tests

A. Materials

The Contractor shall submit to the Engineer, test reports for materials supplied to be used in the construction whenever the Engineer has not received certified letters from materials suppliers that materials meet the specifications called for, or there is visible evidence on the work site that the materials do not conform to the visual inspection section of the specifications called for.

The test reports shall be based upon standard methods of testing as called for in the materials specifications and as set forth by the American Society for Testing Materials (A.S.T.M.). The testing shall be done at a laboratory approved by the Engineer.

Water Specifications

Northern Kentucky Water District

Section I

DESCRIPTION OF BID ITEMS

1. **RELOCATE FIRE HYDRANT:** Includes allowing for Northern Kentucky Water District's Inspector to inspect the existing fire hydrant prior to reuse, returning unusable fire hydrants to the Northern Kentucky Water District Warehouse and picking up a replacement hydrant for use if the existing fire hydrant is determined unfit for reuse. Includes all labor, equipment, excavation, materials and backfill to relocate existing fire hydrant to valve, pipe, and anchoring tee as indicated on plans and on standard drawings contained in the plans. The pipe, valve and anchoring tee shall be paid under separate bid items when required. The Contractor to supply and install all anchoring couplings, fire hydrant extensions, concrete blocking, restoration, granular drainage material, etc. needed to install the fire hydrant complete and ready for use as shown on the plans, and in accordance with the specifications and standard drawings. No additional payment will be made for rock excavation. Paid EACH (EA) when complete.
2. **DUCTILE IRON PIPE (ALL SIZES)** Includes the specified pipe, polyethylene wrap, labor, equipment, excavation, bedding, restoration, disinfection, testing, backfill, etc. required to install the specified pipe at the location shown on the plans, or as directed, in accordance with the specifications and standard drawings complete and ready for use. No additional payment will be made for rock excavation. Paid LINEAR FEET (LF).
3. **TEES, BENDS, REDUCERS, AND INCREASERS (ALL SIZES)** Includes the specified ductile iron or mechanical joint fitting, polyethylene wrap, labor, equipment, excavation, blocking, anchoring, disinfection, backfill, restoration, etc. to install the specified fitting at the locations shown on the plans in accordance with the specifications and standard drawing complete and ready for use. Paid EACH (EA) when complete.
4. **VALVES (ALL SIZES)** Includes the specified resilient seat gate valve for valve sizes of 300 mm (12") and smaller, and butterfly valves for larger valves, polyethylene wrap, labor, equipment, excavation, anchoring (if any), valve box and valve stem extensions, backfill, 600 mm x 600 mm x 100 mm (2'x2'x4") concrete pad, restoration, testing, disinfection, etc. required to install the specified valve at the location shown on the plans in accordance with the specifications and standard drawings complete and ready for use. Paid EACH (EA) when complete.
5. **ADJUST EXISTING WATER VALVE BOX TO GRADE** Includes all labor, equipment, valve box and valve stem extensions (if required), excavation, backfill, 600 mm x 600 mm x 100 mm (2'x2'x4") concrete pad, restoration, etc. to adjust the top of the box to finished grade complete and ready for use. Paid EACH (EA) when complete.
6. **COPPER SERVICE (ALL SIZES)** Includes the specified copper service, labor, equipment, excavation, backfill, testing, disinfection, and restoration to install the pipe at the locations shown on the plans or as directed, in accordance with the specifications and standard

drawings, complete and ready for use. No additional payment will be made for rock excavation or for bedding required in rock excavation. Paid LINEAR FEET (LF)

7. **RECONNECT TO SERVICE** Includes all labor and materials, including fittings and bends necessary to connect new service line to existing service line. Paid EACH (EA) when complete.
8. **RELOCATE WATER METERS (ALL SIZES)** Includes all labor, equipment, excavation, additional fittings, disinfection, testing, restoration, etc. to relocate the existing water meter (whatever size exists), meter yoke, meter box, casting, etc. from its old location to the location shown on the plans or as directed, in accordance with the specifications and standard drawings complete and ready for use. The required new service pipe will be paid under separate bid items. Paid EACH (EA) when complete.
9. **RECONNECT TO MAIN** Includes all labor and materials, including fittings and bends and valve necessary to connect service line to the water main. Where the reconnect is made to an existing main this item includes reusing the existing service tap or abandoning the existing service tap by shutting off the curbstop at the existing main and disconnecting the copper service which is being abandoned. Paid EACH (EA) when complete.
10. **ADJUST WATER METER TO GRADE** Include all labor, equipment, excavation, materials, backfill, restoration, etc. to adjust the meter casting to finished grade (whatever size exists) at the location shown on the plans or as directed in accordance with the specifications and standard drawings complete and ready for use. Paid EACH (EA) when complete.
11. **TIE-IN TO (ALSO, CONNECT TO) EXISTING MAIN (ALL SIZES)** Includes all labor, equipment, excavation, fittings, sleeves, couplings, blocking, anchoring, restoration, disinfection, testing and backfill required to make the tie-in as shown on the plans, and in accordance with the specifications complete and ready for use. Pipe for tie-ins shall be paid under separate bid items and shall be measured thru tie-in fittings. Paid EACH (EA) when complete.
12. **ADJUST FIRE HYDRANT TO GRADE** Includes all labor, equipment, excavation, materials and backfill to adjust the existing fire hydrant using the fire hydrant manufacturer's extension kit for adjustments of 18" or less. Adjustments greater than 18" require anchoring couplings and vertical bends to adjust to grade. The Contractor will supply and install all anchor couplings, bends, fire hydrant extension, concrete blocking, restoration, granular drainage material, etc. needed to adjust the fire hydrant complete and ready for use as shown on the plans, and in accordance with the specifications and standard drawings. This also includes allowing for Northern Kentucky Water District's Inspector to inspect the existing fire hydrant prior to adjusting, returning unusable fire hydrants to the Northern Kentucky Water District Warehouse and picking up a replacement hydrant and piping for use if the existing fire hydrant is determined unfit for adjustment. If it is determined by the Northern Kentucky Water District that the existing hydrant is unfit for adjustment the District will supply the hydrant and piping necessary to make adjustment. The Contractor shall furnish the equipment, labor and materials (other than fire hydrant and piping) to install the hydrant, piping, concrete blocking, restoration, granular drainage material, etc. needed to adjust the fire hydrant complete and ready for use as shown on the plans and in accordance with the specifications and standard drawings. No additional payment will be made for rock excavation. Paid EACH (EA) when complete.

Section II

GENERAL INSTRUCTIONS AND SPECIAL NOTES

1. **WATER SHUTDOWNS** No customer of Northern Kentucky Water District shall be without water for a period longer than 4 hours unless approved by Northern Kentucky Water District. All customers to be without water shall be notified 24 hours in advance. No active water main shall be shut down without prior approval of Northern Kentucky Water District. Tie-ins on this project may have to be scheduled at night, on weekends or other off peak hours.
2. **PROTECTION OF EXISTING UTILITIES** The existing utilities shown on the plans are shown as best known at the time the plans were developed and are to be used as a guide only by the Contractor. The Contractor shall use all means at his disposal to accurately locate all affected utilities, whether shown on the plans or not, prior to excavation and protect these utilities during construction. Any damage to existing utilities during construction that are shown or not shown on the plans shall be repaired at the Contractor's expense.
3. **STATIONS AND DISTANCES** All stations and distances indicated in the plans or specifications are approximate, therefore, some minor adjustment may have to be made during construction to fit actual field conditions.
4. **FIRE HYDRANT DISCONNECTION** No fire hydrant shall be removed from service without prior approval of Northern Kentucky Water District, and the proper fire authority.
5. **RESIDENT ENGINEER** "Resident Engineer" as referred to in the specifications or in the plans shall mean the Kentucky Department of Highways Engineer in charge of the project and his inspectors.
6. **WATER MAIN INSPECTION** Northern Kentucky Water District and their inspectors, and the resident engineer and his inspectors shall be jointly responsible for inspection of water line facilities installation. Where the phrase "as directed" appears in these specifications without defining who is doing the directing, it shall be understood "as directed" means jointly directed by the Resident Engineer and Northern Kentucky Water District
7. **PRIOR INSPECTION OF EXISTING METER SETTINGS** The Contractor with the Northern Kentucky Water District's inspector shall make an inspection of all meter settings to adjusted or relocated prior to construction. Any meter setting not up to Northern Kentucky Water District standard shall be noted and parts furnished to the Contractor by the Northern Kentucky Water District for installation as needed. Any water meter setting, fire hydrant or any other water facilities that are to be relocated, adjusted, reused or remain and are damaged by the Contractor shall be repaired at the contractors expense. Any old water meter settings removed and not reused shall be turned over to the Northern Kentucky Water District.
8. **SPECIAL BACKFILL NOTE** No sand or granular material shall be used for backfill above 300 mm (12") over the top of the pipe or around structures. Only compacted soil or flowable fill shall be used unless approved or otherwise directed by the Resident Engineer.
9. **GENERAL SAFETY** For the security and safety of people in and adjacent to trenches or construction operations, the "Manual of Accident Prevention in Construction" published by

the Associated General Contractors Association of America, the "Manual On Uniform Traffic Control Devices" published by the Federal Highway Administration, and the safety regulations of the appropriate state and local agencies shall be followed when specifically applicable, or by similarity of operation or as necessary for adequate protection.

10. **MATERIAL HANDLING** Pipe, fittings, valves, hydrants, and accessories shall be loaded, unloaded, and handled by lifting with hoists or skidding so as to avoid shock or damage. Under no circumstances shall such materials be dropped. Pipe handled on skidways shall not be skidded or rolled against other pipe.
11. **PROTECTION OF PAVEMENT** Where main construction is located in or adjacent to pavements, all construction equipment shall have rubber tires. Crawler equipment will be permitted when there is no danger of damaging pavement.
12. **NOISE, DUST AND ODOR CONTROL** The Contractors construction activities shall be conducted so as to eliminate all unnecessary noise, dust, and odors. The use of oil or other materials, for dust control, which may cause tracking will not be permitted.
13. **EXCAVATION AND CONSTRUCTION MATERIALS** All excavated material and all construction materials in prosecution of the work shall be deposited so as not to endanger the work, create unnecessary annoyance to the public, or interfere with natural drainage courses. During the course of the work, all material piles shall be kept trimmed up and maintained in a neat, workmanlike manner. All material piles shall be kept a reasonable distance away from roadways so as not to cause a hazard and block the motorists view.
14. **PROTECTION OF TREES, SHRUBS, AND OTHER ITEMS TO REMAIN** Special care shall be taken by the Contractor to avoid unnecessary damage to trees or shrubs and their root systems or any other items shown to remain. Should the Contractor do unnecessary damage to any item shown to remain, the item shall be repaired or replaced at the contractors expense. Should unnecessary damage be caused to items to remain and is determined not repairable, the Contractor shall compensate the owner for the loss if any.
15. **UNACCEPTABLE EXCAVATED TRENCH MATERIAL** Any excavated trench material which is determined unacceptable for backfill shall be removed from the area and wasted at a location acquired by the Contractor and approved by the Resident Engineer. Acceptable backfill material shall be acquired by the Contractor at a location approved by the Resident Engineer. The disposition and handling of unacceptable material and the acquisition and handling of acceptable material shall be at the Contractors expense.
16. **BLASTING ROCK** No blasting of rock shall be performed without specific permission of the Resident Engineer. Blasts shall be properly covered and all utilities and structures in the area shall be properly protected. Warning shall be given to all persons in the area who could be affected by the blasting. Blasting shall be at the risk of the Contractor who shall be liable for all damages to persons or property caused by the blasting. All blasting shall be performed in accordance with all regulations of the Kentucky Department of Mines and Minerals and all other governing agencies having jurisdiction. The Kentucky Department of Mines and Minerals, area emergency response agencies, utility companies with utilities in the area shall be notified of the blasting sufficiently in advance.

17. **ABANDONED VALVES** The valve boxes shall be removed from all abandoned valves prior to final roadway paving. This shall be done to the satisfaction of the Engineer. Paving over a valve box without removing same will not be acceptable. No separate payment will be made for removal of valve boxes but shall be considered incidental to water line construction.
18. **SALVAGED AND STOCKPILED ITEMS** The Contractor shall salvage all items in a workmanlike manner. Any item damaged by the Contractor thru negligence shall be replaced with new items at the contractors expense. All salvaged items to be stockpiled and picked up by NKWSD, shall be stored in a safe place until pickup. The Contractor is to notify NKWSD at 859-578-9898 when salvaged items are available for pickup.
16. **CONSTRUCTION PROCEDURE** The successful contractor to prepare construction procedure with respect to the installation of water utilities. The Sequence and Procedure of Water Utilities Construction shall be approved by the Northern Kentucky Water District's Engineering Department prior to the beginning of the water utilities relocations.

Section III

MATERIAL SPECIFICATIONS

1. **CONCRETE** All concrete shall be Class A in accordance with KYDOH Standard Specs. for Road and Bridge Construction current edition and shall be placed in accordance with same unless otherwise noted. The concrete shall be placed to the dimensions as required in the plans or specifications. Reinforcing steel shall be placed in the concrete as required in the plans or specifications.
2. **CONCRETE REINFORCING STEEL** All reinforcing steel shall be Grade 40. The size, location, placement, and quantity shall be as required in the plans or specifications.

3. **WATER MAIN**

A. **DUCTILE IRON PIPE**. Ductile iron pipe shall meet the requirements of ANSI A21.51 (AWWA C151)

1. **Material**. The chemical constituents shall meet the physical property recommendations of ASTM A536 to ensure that the iron is suitable for satisfactory drilling and cutting.
2. **Minimum Thickness**. Unless otherwise shown on the plans, the minimum thickness of the barrel of the pipe shall be Class 52. All pipe shall be clearly marked as to class by the manufacturer.
3. **Coating and Lining**. The pipe shall be coated outside with a bituminous coating in accordance with ANSI A 21.51 (AWWA C151) and lined inside with cement mortar and seal coated in accordance with ANSI A21.4 (AWWA- C104).
4. **Fittings & Glands**. Fittings and glands shall be ductile iron as specified in Section 3A, "Ductile Iron Fittings".
5. **Polyethylene Encasement**. Ductile Iron Pipe shall be encased with Polyethylene film conforming to ANSI A21.5 (AWWA C105)

B. **PIPE JOINTS**

1. **Push on and Mechanical**. - Push-on and mechanical joints including accessories shall conform to ANSI A21.11 (AWWA-C111). Bolts shall be high strength COR-10 tee head with hex nuts. The maximum deflection at push-on joints and/or mechanical joints shall be 5 degrees or as recommended by the Manufacturer.
2. **Flanged**. - Flanged joints shall meet the requirements of ANSI A21.15 (AWWA C115) or ANSI B16.1
 - a. **Gaskets**. All flanged joints shall be furnished with 1/16 inch thick full face red rubber.
 - b. **Bolts**. Bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in ANSI B18.2. For bolts of 1-3/4 inches in

diameter and larger, bolt studs with a nut on each end are recommended. Material for bolts and nuts shall conform to ASTM A307, Grade B.

3. Restrained. - If restrained joint system is required on the plans, all pipes, bends, valves, etc. shall be restrained. Restrained joints shall consist of a device to provide a flexible, tied joint. Acceptable devices would be a clamp type joint or bell-bolt flexible tied joint or approved equal. Method of restraining and laying schedule shall be approved by the Engineer prior to the start of the project. Manufacturer installation instructions shall be followed. Restrained joints shall be capable of withstanding a maximum joint pressure of 14 kg/sq.cm (200 psi.) unless otherwise noted.

a. Bell and Spigot Bell and spigot joints shall conform to ANSI A21.6.

b. Push-on. Restrained push-on joints shall conform to ANSI A21.11 (AWWA C111). When bolts and nuts are required, they shall be corrosion resistant high strength steel. **Mechanical joints with retainer gland and Lok-Set joints are not acceptable unless otherwise specified.**

4. FITTINGS

A. DUCTILE IRON FITTINGS. Ductile Iron Compact Fittings and accessories shall conform to AWWA C153 and Full Body Fittings - and accessories to AWWA C110. Bolts and nuts shall be high strength, corrosion resistant alloy, such as "Cor-Ten" or approved equal.

1. Working Pressures. All fittings and accessories shall be Ductile Iron, rated for a minimum of 200 psi working pressure or as specified herein. The fittings and accessories shall be new and unused. (NOTE: Certain areas of the District's service area require materials used, to be of a higher working pressure than 200 psi.)

2. Coating and Lining. The fittings shall be coated outside with a bituminous coating in accordance with ANSI A21.10 (AWWA C110) and lined inside with cement mortar and seal coated in accordance with ANSI A21.4 (AWWA C104).

3. Fittings and Glands. All pipe fittings shall be mechanical joint fittings. Mechanical joints shall conform to AWWA C111.

4. Polyethylene Encasement. Ductile Iron Fittings shall be encased with polyethylene film conforming to ANSI A21.5 (AWWA C105)

B. JOINTS

1. Mechanical. Mechanical joints including accessories shall conform to ANSI A21.11 (AWWA C111). Glands shall be ductile iron. Bolts shall be high strength COR-10 tee head with hex nuts.

2. Flanged. Flanged joints shall meet the requirements of ANSI A21.15 (AWWA C115) OR ANSI B16.1 and be used with the express approval of the Engineer.

- a. Gaskets. All flanged joints shall be furnished with 1/16 inch thick full face red rubber.
 - b. Bolts. Bolts shall be stainless steel and have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in ANSI B18.2. For bolts of 1-3/4 inches in diameter and larger, bolt studs with a nut on each end are recommended. Material for bolts and nuts shall conform to ASTM A307, Grade B.
3. Restrained. If restrained joints is shown on the plans, all pipe, bends, valves, etc. shall be restrained.
- a. Bell and Spigot. Bell and spigot joints shall conform to ANSI A21.6.

5. **POLYETHYLENE WRAP**

All ductile iron pipe, fittings, valves, and fire hydrant leads shall be polyethylene wrapped, installed according to the current edition of AWWA C105. Ductile iron fittings, valves, and fire hydrant leads used in the installation of P.V.C. pipe shall be included.

- A. Material. Polyethylene wrap shall be a minimum of 8-mil polyethylene tube.
- B. Installation. The contractor shall cut the roll in tubes 2 feet longer than a standard length of pipe. Each tube shall be slipped over the length of pipe, centering to allow a 1' overlap on each adjacent pipe section. After the lap is made, slack in the tubing shall be taken up for a snug fit and the overlay shall be secured with polyethylene tape.

Pipe shall not be wrapped and stored on site for any period of time, but wrapped and immediately placed in the trench, fittings shall be wrapped prior to installing blocking or pads. (see Standard Drawing #104) Polyvinyl chloride pipe requires no wrap. Odd shaped appurtenances such as valves, tees, fittings, and other ferrous metal pipeline appurtenances shall be wrapped by using a flat sheet of polyethylene. Wrapping shall be done by placing the sheet under the appliances and bringing the edges together, folding twice, and taping down.

6. **FIRE HYDRANTS**

- A. DESCRIPTION. The Contractor shall provide all labor, materials, tools, and equipment required to furnish and install in good workmanlike manner all fire hydrants complete and ready for service where shown on the plans or where directed by the Engineer and as specified herein.
- B. FIRE HYDRANTS. Fire hydrants shall conform to AWWA C502. Hydrants shall conform to the standards of the Northern Kentucky Water District as SHOWN on the plans. All fire hydrants shall have auxiliary valves for isolating water flow to the hydrant. All fire hydrants and auxiliary valves shall be positively locked to the water main by restrained joints, hydrant adapters, or other approved method.

Hydrants shall be designed to 200 psi working pressure and shall be shop tested to 300 psi hydrostatic pressure with the main valve both open and closed. The barrel shall

have a breakable safety section and/or base bolts just above the ground line. Hydrants shall have a main valve opening of 5 1/4 inches, a 6 inch mechanical joint inlet to be suitable for setting in a trench 1,000 mm (3' 6") deep minimum, and shall be the traffic style hydrant so that the main valve remains closed when the barrel is broken off. Hydrants shall have a dry top and shall be self draining, when the main valve is closed. Self draining hydrants shall drain to dry wells provided exclusively for that purpose. Hydrant drains shall not be connected to storm or sanitary sewers. Hydrants located generally in the Covington System and other areas determined by the Engineer (flood zones) shall have all drain holes plugged prior to installation. Hydrants shall be rotatable in a minimum of eight (8) position in 360 degrees. All hydrants shall have two (2)- two and one half (2 1/2) inch hose nozzles and one (1) steamer or pumper connection threaded to conform to Northern Kentucky Water District Standards: steamer nozzle shall be National Standard Thread and 2 1/2" outlets shall be Northern Kentucky Water District Standard Thread (Old Cincinnati Thread). The operating nut and the nuts of the nozzle caps shall be square in shape, measuring one (1) inch from side to side. Hydrant body shall be painted yellow for areas designed for 150 psi working pressure and red for areas in excess of 150 psi. Hydrants used in areas in excess of 150 psi working pressure shall be designed to operate at the higher pressures and shall have independent operating valves on each 2 1/2" outlet.

All hydrants shall be right hand open, clockwise, except in certain areas of Campbell Co. as specified in Standard Drawings and shall have a direction arrow of operation cast into the dome of the hydrant. Installation per Standard Drawing #109.

- C. INSTALLATION. The installation of fire hydrants shall be in conformance with "Mains Installation" section, paragraph "Setting Hydrants".
- D. Polyethylene Encasement Fire hydrant tee, anchoring pipe and part of the fire hydrant shoe shall be encased with Polyethylene film conforming to ANSI A21.5 (AWWA C105). (See Standard Drawing #109)

7. VALVES

- A. DESCRIPTION. The Contractor shall provide all labor, materials, tools, and equipment required to furnish and install in good workmanlike manner all valves and accessories complete and ready for service where shown on the plans or where directed by the Engineer and as specified herein.
- B. GATE VALVES. Gate valves shall conform to AWWA C509 and shall be cast iron or ductile body, resilient wedge, non-rising stem with rubber "O" ring packing seals. All external dome and packing bolts shall be stainless steel. The valves shall open by turning counter-clockwise. All valves shall have openings through the body of the same circular area as that of the pipe to which they are attached. Valves shall have mechanical joint ends unless otherwise shown on the plans or directed by the District. All valves shall be designed for a working pressure of 250 pounds per square inch (PSI) unless otherwise noted on the plans or in the "Supplemental Specifications". An extension stem shall be furnished if required, to bring the operating nut within 3-1/2 feet of finished grade. Extension stems shall be securely fastened to the valve stem. The Contractor shall make all valves tight under their working pressures after they have been placed and before the main is placed in operation.

C. TAPPING SLEEVES AND VALVES. Tapping sleeves and valves shall be designed for a working pressure of 250 psi. The tapping sleeve together with the tapping valve shall be tested at 250 psi for visible leakage and pressure drop before the main is tapped. Tapping sleeve and valve used in high pressure areas shall be tested at 350 psi.

1. Tapping Sleeves Tapping sleeves shall be two piece with mechanical joint type ends, and be so designed as to assure uniform gasket pressure and permit centering of the sleeve on the pipe.
2. Tapping Valves Tapping valves shall have a flange on one end for bolting to the tapping sleeve and a mechanical joint type end connection on the outlet with slotted standard flange or other adapters for connection to the tapping machine. All external dome, flange and packing bolts shall be stainless steel. The valves shall open by turning counterclockwise. Tapping valves shall conform to AWWA C509.

D. VALVE BOXES All valves shall be provided with valve boxes. Valve boxes shall be of standard, adjustable, heavy duty cast iron extension type, two piece, 5 1/4 inch shaft, screw type, and of such length as necessary to extend from valve to finished grade, Tyler #562-S, Tyler #564-S or approved equal. Valve box cover shall be stamped "Water". Tops shall be set at final established grade.

E. BUTTERFLY VALVES. Unless otherwise specified valves 16 inches and larger shall be butterfly valves rated at 250 psi working pressure and conform to the applicable portions of AWWA Standard C504, latest edition.

1. Body - The valves shall be AWWA Class 250B designed for tight shut-off against a differential pressure of 250 psi. Valve bodies shall be constructed of ductile iron. Two trunnions for shaft bearing shall be integral with the valve body. The valves and appurtenances shall be suitable for buried service.
2. Ends - Valves shall have mechanical joint ends and shall be furnished with high strength COR-10 tee head with hex nuts, ductile iron glands, and rubber gaskets for each mechanical joint end.
3. Discs - Valve discs of cast steel, fabricated steel, or cast bronze are not acceptable.
4. Seats - Seats bonded on the discs are not acceptable.
5. Shaft Seals - If stuffing boxes are utilized for shaft seals they shall be constructed of cast iron, ASTM A126. Gland assemblies shall be of cast bronze, ASTM B132. The packing gland shall be housed in a solid walled cast iron, ASTM A48, Class 40 one piece structure or equal.
6. Operators - The valve operating mechanism shall be for counterclockwise opening. There shall be no external moving parts on valve or operator except the operator input shaft. Input shaft is to be operated by a 2 inch square operating nut. Maximum required input force on the operator shaft to open and close the valve shall be 40 pounds. The total number of turns applied to the operating nut required to completely open the valve from a completely closed position shall not be less than

twice the normal valve diameter. An extension stem shall be furnished to bring the operating nut within 3 1/2 feet of the finished grade. Extension stems shall be securely fastened to the valve stem.

E. **VALVE BOXES** All valves shall be provided with valve boxes. Valve boxes shall be of standard, adjustable, heavy duty cast iron extension type, two piece, 5 1/4 inch shaft, screw type, and of such length as necessary to extend from valve to finished grade, Tyler #562-S, Tyler #564-S or approved equal. Valve box cover shall be stamped "Water". Tops shall be set at final established grade.

F. **AIR RELEASE AND VACUUM VALVES.** Air release valves shall be constructed at high points in the water line as indicated on the plans. These valves shall permit the air in the pipeline to escape as the pipe line fills and allows the air to re-enter as the line empties. These valves shall be APCO Air Release Valves Model #200-A, 250 psi working pressure, 1", cast iron body and cover. 16" and larger water mains shall be a 2" air release valve and curb stop. Refer to Standard Drawing #106 for reference.

8. **STEEL CASING PIPE**

Casing pipe shall be steel pipe with a minimum yield strength of 35,000 psi with a minimum wall thickness as listed below:

Nominal Diameter Casing Pipe	Normal Wall Thickness	Nominal Diameter Casing Pipe	Normal Wall Thickness
Under 350 mm (14")	0.251"	650 mm (26")	0.438"
350 & 400 mm(14"&16")	0.282"	700 & 750 mm(28"&30")	0.469"
450 mm (18")	0.313"	800 mm (32")	0.501"
500 mm (20")	0.344"	850 & 900 mm(34"&36")	0.532"
550 mm (22")	0.375"	950 – 1050mm(38,40&42")	0.563"
600 mm (24")	0.407"	1200 mm (48")	0.626"

The inside diameter of the casing pipe shall be at least 100 mm (4") greater than the outside diameter of the carrier pipe joints. Steel casing sections shall be connected by welding, conforming to AWWA C206.

Adequate pipe spacers shall be installed to ensure that the carrier pipe is adequately supported in the center of the casing pipe throughout it's length, particularly at the ends. There shall not be any metallic contact between the casing and carrier pipe. Casing shall be backfilled with pea gravel or sand after the carrier pipe is installed to prevent pipe movement. Casings shall have both ends sealed up in such a way as to prevent the entrance of foreign material. See Standard Drawing #104 for installation details.

9. **MATERIAL APPROVAL** Material certification and test samples shall be provided by the Contractor, at the contractors expense, as required by Northern Kentucky Water District and the Kentucky Department of Highways. No material shall be used until approved. All rejected material be removed from the project and approved material acquired by the Contractor at the Contractor's expense.

10. **PAVING MATERIALS FOR REPLACEMENT IN KIND** All materials for replacement in kind of streets, sidewalks, curbs, walls etc. shall meet the requirements of the applicable sections of KYDOH Standard Specifications For Road And Bridge Construction.
11. **FLOWABLE FILL** This material shall meet the requirements of SPECIAL NOTE 7X of the Kentucky Department of Highways' Standard Specifications for Road and Bridge Construction.

Section IV CONSTRUCTION

- A. GENERAL Installation of water mains and appurtenances shall conform to the latest edition of AWWA Standard C600 for D.I.P.

Water main pipe and fittings shall be laid on a good level foundation with no gaps or humps under the pipe or fittings. Excavation shall be done by hand at joints to prevent the pipe and fittings from being supported by the mechanical joint or slip joint bell. Pipe shall be laid with the bell ends facing in the direction of laying.

The interior of the pipe shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations. ALL OPEN ENDS ARE TO BE CLOSED WITH CAPS OR PLUGS AT ALL TIMES WHEN PIPE LAYING OPERATIONS ARE NOT IN OPERATION AND AT THE END OF THE DAY. All caps or plugs shall be properly installed and blocked in advance of filling, flushing, and testing mains. All securing and blocking shall be inspected by the Engineer prior to backfilling of ditch.

- B. HANDLING. Pipe, fittings, valves, hydrants and accessories shall be loaded and unloaded by lifting with hoists or skidding so as to avoid damage. Under no circumstances shall such materials be dropped. Pipe handled on skidways shall not be skidded or rolled against other pipe. Pipe hooks that extend inside the ends of the pipe shall not be used for handling the pipe since they could damage the lining. Under no circumstances shall such materials be dropped. The interior of all pipe, fittings and other accessories shall be kept free from dirt and foreign material at all times. When handling P.V.C. pipe care should be taken to avoid abrasion damage, gouging of the pipe, rocks, and any stressing of the bell joints or damage of the bevel ends.

- C. TREE REMOVAL. Stumps of trees designated for removal 12" in diameter and smaller shall be physically removed. Any stump larger than 12" shall be ground down to 6" below final grade level.

- D. DEWATERING. Should water be encountered, the Contractor shall furnish and operate suitable pumping equipment of such capacity adequate to dewater the trench. The trench shall be sufficiently dewatered so that the laying and joining of the pipe is made in the dry. The Contractor shall convey all trench water to a natural drainage channel or storm sewer without causing any property damage.

- E. CONSTRUCTION EQUIPMENT. Where mains are located in or adjacent to pavements, all backfilling and material handling equipment shall have rubber tires. Crawler equipment shall be permitted when there is no danger of damaging pavement.

- F. TRENCH SUPPORT. Supporting open cuts for mains shall be the responsibility of the Contractor where trenching may cause unnecessary damage to street pavement, trees, structures, poles, utilities, or other private or public property. During the progress of the work, whenever and wherever it is necessary, the Contractor shall, at his expense, support the sides of the excavation by adequate and suitable sheeting, shoring, bracing, or other approved means. Such trench support material and equipment shall remain in place until

backfilling operations have progressed to the point where the supports may be withdrawn without endangering property.

G. NOISE DUST AND ODOR CONTROL. The Contractor's construction activities shall be conducted so as to eliminate all unnecessary noise, dust and odors.

H. DISINFECTION AND LEAKAGE TESTING. See Section "Disinfection and Leakage Testing."

I. TRENCH EXCAVATION AND BOTTOM PREPARATION.

1. General. The Contractor shall perform all excavation of every description and of whatever substances encountered to the depths indicated on the drawings or as otherwise specified. During excavation material suitable for backfilling shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins. All excavated materials not required or suitable for backfill shall be removed and wasted at a site acquired by the Contractor and approved by the Engineer. Topsoil shall be stripped from the excavation area before excavation begins.

Such grading shall be done as may be required to prevent surface water from flowing into trenches or other excavations, and any water accumulating therein shall be removed by pumping or other approved methods. The trench shall be sufficiently dewatered so that the laying and joining of pipe is made in the dry. The Contractor shall take whatever action necessary to insure that water pumped from the trench will not damage private property. If necessary the Contractor shall haul trench water to another suitable location for disposal.

Such sheeting and shoring shall be furnished and installed by the Contractor, at his own expense, as may be necessary for the protection of the work, protection of other utilities, protection of structures, the safety of the personnel, and the safety of the public. All shoring shall be removed when the work is completed unless directed otherwise by the Engineer. The Contractor shall also furnish whatever barricades or fencing necessary to provide for the safety of pedestrians in excavation areas and for traffic control as discussed in other sections. All open trenches shall be adequately covered, barricaded and/or backfilled during non-working hours in order to adequately protect vehicular and pedestrian traffic.

The Contractor shall excavate whatever material encountered. Trenches shall be excavated to the widths shown in the table headed "Trench Width" or as otherwise indicated in the plans, and the banks shall be as nearly vertical as practicable. The bottom of the trenches shall be accurately graded to provide uniform bearing and support for each section of the pipe or conduit on undisturbed soil at every point along its entire length, except for bell holes and for the proper sealing of the pipe joints. Bell holes and depressions in order that the pipe rest upon the prepared bottom for as nearly its full length as practicable, shall be only of such length, depth, and width as required for properly making the particular type of joint. Additional depth shall be excavated in rock as described elsewhere herein.

Except in cases where the elevations of the water lines are indicated on the plans, trenches for water line shall be of a depth that will provide a minimum cover over the top

of the pipe of 900 mm (36 inches) from the indicated finished grade, and avoid interference of the water lines with other existing or proposed utilities. Where the note occurs, "Slope to Drain", the Contractor shall manage to keep a positive slope in that direction in order that air may travel to the air vent. Where paved surfaces are to be disturbed by an open cut, the Contractor shall provide suitable machinery to cut the edges of the pavement in a smooth straight line.

2. Rock The word "rock" wherever used as the name of an excavated material, shall mean boulders and solid masonry larger than .3823 cubic meter (1/2 cubic yard) in volume, or solid ledge rock and masonry which, in the opinion of the Engineer, requires for its removal, drilling and blasting, wedging, sledging, barring, or breaking up with a power operated hand tool. Any material which can be excavated using a hand pick and shovel, power operated excavator, power operated backhoe or power operated shovel shall not be defined as rock.
3. Blasting Rock. No blasting of rock shall be done within 40 feet of pipes or structures without specific permission from the Engineer. Blasts shall be properly covered and the pipe or structure properly protected. Warnings shall be given to all persons in the immediate vicinity. Blasting shall be at the risk of the Contractor who shall be liable for all damages to persons or property. Necessary permits shall be secured and paid for by the Contractor.
4. Trench Width. Widths of trenches shall be held to a minimum to accommodate the pipe and appurtenances. The trench width shall be measured at the top of the pipe barrel and shall conform to the following limits:

Earth

- a. Minimum - outside diameter of the pipe barrel plus 8 inches, 4 inches each side of pipe.

Maximum - nominal pipe diameter plus 24 inches.

Rock

Minimum - 24" or less, nominal pipe size: outside diameter of pipe barrel plus 12", @ 6" each side.

Minimum - Larger than 24", nominal pipe size: outside diameter of pipe barrel plus 18", @ 9" each side.

Maximum - nominal pipe diameter plus 24".

- b. Butterfly Valves. Trench width shall be over excavated 24" on the side that the operating mechanism is located on the butterfly valve when the surrounding area cannot be hand dug.
 - c. Structures. The minimum excavation limits for structures shall be as indicated. In rock, the excavation limits shall not exceed 12 inches from the outside wall and 6 inches below the footer.
5. Excessive Trench Width. If, for any reason the trench width exceeds the maximum trench width defined in paragraph "Trench Width", the Contractor, subject to approval of the Engineer, shall provide compacted stone bedding, additional strength pipe or concrete encasement, at the contractor expense.

6. Bottom Preparation The Contractor shall use excavation equipment that produces an even foundation. For the entire length of the trench, a compacted layer of sand or bankrun bedding material shall be installed below the pipe. Bell holes and depressions for joints, valves, and fittings shall be dug after the trench bedding has been graded in order that the pipe rest upon the prepared bedding for as nearly its full length as practicable. Bell holes and depressions shall be only of such length, depth, and width as required for properly making the particular type of joint.

a. Earth. The trench shall be excavated to the depth required, so as to provide a uniform and continuous bearing and support for the pipe barrel. A minimum of a 80 mm (3") sand shall be installed on the solid and undisturbed ground. The finished trench bottom shall be accurately prepared by means of hand tools.

b. Rock. Where excavation is made in rock or boulder, the trench shall be excavated 6 inches below the pipe barrel for pipe 24 inches in diameter or less, and inches for pipe larger than 24 inches in diameter. All loose material shall be removed from the trench bottom. After preparation of the trench bottom, a pipe bed shall be prepared using sand and thoroughly compacted. The bedding material shall be spread the full width of the trench bottom.

7. Water Main Depth. Mains 12" and less in size shall be not less than 36" in depth and no more than 48" in depth, unless otherwise specified. Mains larger than 12" shall be installed as shown on the plans.

8. Excessive Trench Depth. If, for any reason, the trench depth exceeds the trench depth shown on the Plans, the Contractor is responsible for any and all additional cost incurred for the excessive depth.

9. Foundation. The mains are to be built on a good foundation. If, in the Engineer's opinion, the material forming the trench bottom is not suitable for a good foundation, a further depth shall be excavated and the same filled with suitable material. Unauthorized excavation below the trench bottom shall be filled with compacted crushed stone at the Contractor expense.

J. PIPE, VALVE AND HYDRANT INSTALLATION The provisions of AWWA C600 shall apply in addition to the following:

1. Pipe shall not be laid in water or when trench or weather conditions are unsuitable for the work except when permitted by the Engineer. Unless otherwise indicated in the plans or in Section I, Bid Item Explanations, the material shall be new and unused. The interior of the pipe shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations by plugging or other approved methods. Pipe shall be laid with bell ends facing in the direction of laying, unless otherwise directed by the Engineer. After placing a length of pipe in the trench, the spigot end shall be centered in the bell of the pipe and forced home. All pipe shall be laid with ends abutting and true to line and grade. Deflection of pipe joints in excess of the manufacturer's recommendations will not be permitted. A watertight pipe plug or bulkhead shall be provided and used to prevent the entrance of foreign material whenever pipe laying operations are not in progress. Any pipe that has the grade or joint disturbed after laying shall be taken up and

relayed. Any section of pipe found to be defective before or after laying shall be removed and replaced at the Contractor's expense.

2. Pipe Cutting. The cutting of pipe for installing valves, fittings, or hydrants shall be done in a neat and workmanlike manner without damage to the pipe or lining. The end shall be smooth and at right angles to the axis of the pipe. Flame cutting of metal pipe by means of an oxyacetylene torch shall not be permitted. All pipe cutting shall be at the Contractor's expense.
3. Push-On Joints. The surfaces with which the rubber gaskets comes in contact shall be thoroughly cleaned just prior to assembly. The gasket shall then be inserted into the groove in the bell. Before starting joint assembly, a liberal coating of special lubricant shall be applied to the spigot end. (Special lubricant shall be suitable for use in potable water) With the spigot end centered in the bell, the spigot end is pushed home.
4. Mechanical Joints. Mechanical joints require that the spigot be centrally located in the bell. The surfaces with which the rubber gasket comes in contact shall be thoroughly cleaned just prior to assembly. The clean surfaces shall be brushed with a special lubricant just prior to slipping the gasket over the spigot end and into the bell. (Special lubricant shall be suitable for use in potable water) The lubricant shall also be brushed over the gasket prior to installation to remove the loose dirt and lubricate the gasket as it is forced into its retaining space. P.V.C. pipe spigot ends shall be field cut smooth and at right angles to the axis of the pipe for installation in mechanical joint fittings.

1. Bolt Torque The normal range of bolt torque to be applied to standard cast iron bolts in a joint are:

Range of Torque	
Size	in foot-pounds
5/8"	40 - 60
3/4"	60 - 90
1"	70 - 100
1-1/4"	90 - 120

5. Restrained Joints

- a. Ball and Socket. Ball and Socket joints shall be assembled and installed according to the manufacturers recommendations. The joint shall be thoroughly cleaned and lubricated. Check the retainer ring fastener. After installation, all slack shall be taken out of the pipe joint.
 - b. Push-On. Assemble and install the push-on joint according to the manufacturer's recommendations. Restrained joint-type pipe and fittings shall only be used as approval by the Engineer. Retaining glands, field lock gaskets, or retaining flanges shall not be considered as providing a restrained joint. The joint shall be thoroughly cleaned and lubricated. Check the retainer ring fastener. After installation, all slack shall be taken out of the pipe joint.
6. Setting Valves. Valves shall be set on a firm solid concrete block foundation so that no load will be transferred to the connecting pipe. Valves in water mains shall, where possible, be located on the street property lines extended, unless otherwise shown on the plans. A valve box shall be provided for every valve. The valve box shall not transmit

shock or stress to the valve and shall be centered and plumb over the operating nut of the valve. The box cover shall be set flush with the surface of the finished pavement unless otherwise shown. All valves boxes with the exception of isolating valves for fire hydrants that are located in non-paved areas shall have a minimum of 2'x2'x4" concrete pad as shown in Standard Drawing No. 105.

7. Setting Hydrants. Hydrants shall be located as shown on the plans or as directed by the Engineer. The location shall provide complete accessibility and minimize the possibility of damage from vehicles or injury to pedestrians. All hydrants shall stand plumb with the pumper nozzle facing the curb. Hydrant shall be set to the established grade, with the traffic flange within 100 mm (4") above final grade in accordance to Standard Drawing No. 109. Each hydrant shall be controlled by an independent gate valve with valve box. All valves used for hydrant control shall be anchored to the branch tee.
8. Thrust Blocking. All bends over five (5) degrees, plugs, caps, and tees shall be securely blocked against movement with concrete thrust blocks placed against undisturbed earth in accordance with Standard Drawing No. 104. Thrust blocks shall be approved by the Engineer prior to backfilling. Water mains shall have concrete thrust block at all pipe intersections and changes of direction to resist forces acting on the pipeline. All concrete thrust blocks shall be poured in such a manner that the bolts can be replaced without disturbing the blocking.

All caps or plugs used in mains to undergo hydrostatic test shall be properly installed and blocked in advance of testing mains. All caps or plug installations shall be approved by the Engineer's representative before the main is subjected to the pressure test.

- a. Concrete Blocking. Concrete blocking shall be K.D.O.T. Class A concrete as specified in Section "Concrete". Blocking shall be placed between undisturbed ground and the fitting to be anchored. The area of bearing on the fitting and on the ground in each instance shall be that shown herein. The blocking shall, unless otherwise shown, be so placed that the pipe and fitting joints will be accessible for repair.
- b. Tie Rods. If shown or specified, movement shall be prevented by attaching suitable metal rods, clamps or restrained fittings. Steel tie rods or clamps, where permitted, shall be of adequate strength to prevent movement. Steel tie rods or clamps shall be painted with three coats of an approved bituminous paint or coal tar enamel. A minimum of 3/4" welded eye bolts @ a 90 degree bend and 3/4" threaded rods may only be used with the approval of the Engineer for temporary restraint only. Duc-Lucs are prohibited for use.
- c. Restrained Fittings. Restrained fittings, where permitted, shall be subject to the approval of the Engineer.

K. TRENCH BACKFILL

All trench backfill shall be free from cinders, refuse, organic material, boulders, rocks or other material which in the opinion of the Engineer is unsuitable. No backfill shall be made with frozen material.

1. BACKFILL

- a. Trench Bottom Preparation. The pipe shall be bedded on sand to achieve full pipe barrel support. In any event not less than 3" of sand bedding shall be used.
- b. Backfill to 12" Over Pipe Barrel. All trench excavations shall be backfilled immediately after pipe is laid with the exception of thrust blocks. Compacted sand shall be used to backfill the trench from the bottom of the pipe barrel to the 12" over the pipe barrel. No flushing of backfill shall be permitted to achieve compaction. Clay bulkheads shall be installed as specified under Bulkheads Section.
- c. Remaining Trench Backfill. From 12" above the pipe barrel to the surface, excavated trench material or flowable fill may be used as backfill material. No material shall be used for backfill that contains frozen earth, vegetation or organic material, debris, rocks 8" or larger measured in any direction, or earth with an exceptionally high void content.
- d. Compaction. All backfill shall be placed in uniform loose layers, not to exceed 12" layers, and each layer shall be compacted to a density not less than 95 percent of the standard Proctor maximum dry density (ASTM D698). The backfill shall be compacted in such a manner and with appropriate equipment so that there is no pipe damage, pipe misalignment or damage to joints. No flushing of backfill shall be permitted to achieve compaction.
- e. Bulkheads. When a granular bedding is provided in rock or when granular backfill is used, the Contractor shall place bulkheads of clay soil across the trench at 100' intervals to resist the movement of groundwater through the granular material. Such bulkheads shall be carefully compacted and shall extend approximately 3 feet in a direction parallel to the pipe and shall extend from the bottom of the trench to a point 4" below final grade level.
- f. Flowable Fill as Backfill As required by the Engineer, flowable fill shall be per Special Note 7X of the Ky. Department of Highways Standard Specifications for Road and Bridge Construction.
- g. Surface Conditions. The trench surface shall be periodically attended to during the course of the contract. The trench surface shall be maintained in a safe condition and shall not interfere with natural drainage.

L. INSTALLATION OF PIPE BY BORING OR JACKING. At certain locations where designated on the plans, the Contractor will be required to install pipe under paved areas or other obstacles by boring a hole large enough to pull the pipe through without obstructing the designated area, or by jacking, whichever is the most feasible.

M. WATER METERS Water Meters shall be installed at locations shown on the plans. The meter shall be constructed as shown on Standard Drawings contained herein or in the plans.

N. CONNECTIONS (TIE-INS) TO EXISTING WATER LINES All connections to existing water lines shall be made at location shown on the plans. Care shall be taken in each case that none of the sterilizing water may enter the system during the sterilizing operation. Each connection shall be preceded with a one inch corporation stop and drain to allow bleeding of the water line of air and sterilizing water. This corporation stop shall be furnished and

installed at the Contractor's expense. All sections of pipe and appurtenances to be used for tie-ins and not sterilized, shall be thoroughly cleaned by scrubbing with a chlorine solution prior to installation. All tie-ins of mains shall be done with transitional or straight solid sleeves. Mains shall be flushed of sterilizing water before tie-ins to existing mains are made.

- O. INSTALLATION OF SERVICE LINES Service line shall be installed as shown on the plans or as directed. The Contractor shall excavate whatever material encountered. The service lines shall be installed using boring and jacking or open cut (as specified on the plans) at the depth required to clear existing and proposed sewers, but in no case shall the line be installed with less than 36" cover from final grade. The trench width shall be as excavated to a maximum of 2'. The line shall be laid on firm soil. In rock, sufficient extra depth shall be excavated and refilled with acceptable compacted soil or bedding sand to provide a cushion for the elimination of the possibility of crushing or perforating the pipe. Connections shall be made using normal practices for water line installation and in accordance with the standards in the plans or contained herein. Backfill shall meet the same requirements as that described in PIPE TRENCH BACKFILL.

- P. TEMPORARY SERVICE CONNECTIONS Contractor shall furnish, install, make connections, and maintain all temporary lines and other appurtenances necessary to run temporary service connections as needed to permit construction. All temporary service pipes crossing streets, commercial driveways, and/or wheelchair ramps must be buried to prevent a traffic/pedestrian hazard.

The pipe, hoses and other materials furnished by the Contractor for use as temporary service pipe, shall be clean, water-tight and fully adequate to withstand existing pressures and all other conditions of use.. Care shall be exercised throughout the installation of all temporary pipe and service fittings to avoid any possible contamination of any mains or house services or contamination of the temporary pipe proper. Contractor must disinfect all temporary line. All temporary lines must be flushed before being hooked to service line.

The Contractor shall be responsible for the regularly testing and recording the chlorine level of the temporary lines. If low levels are encountered, the Contractor shall be responsible for flushing the line to get levels into standard. The Contractor shall perform all connecting and disconnecting of temporary bypass to consumers' services and all back clearing of service lines.

The Contractor shall maintain the temporary water service line in safe and operative condition at all times. Any temporary bypass lines or services crossing a sidewalk or driveway shall be temporarily covered with a rubber ramp provided by the Contractor or bituminous cold patch, compacted by a roller or a mechanical compaction device, provided by the Contractor. Ramping method must be approved by the District prior to use. The Contractor shall be responsible for the maintenance of the temporary ramping method and any damage as a result there-of.

Q. **APPLICABLE SPECIFICATIONS & STANDARDS**

The following specifications and standards form a part of these Specification:

- A. **American Water Works Association (AWWA) Standards**
- B. **Northern Kentucky Water District Standards Drawing & Specifications**

- C. "Manual of Accident Prevention in Construction" published by the **Associated General contractors of America**
- D. **Kentucky Occupational Safety and Health Administration's** "Kentucky Occupational Safety and Health Standards for General Industry" current edition.
- E. **American National Standards Institute (ANSI)**
- F. **American Society for Testing & Materials (ASTM)**
- G. **Kentucky Division of Water Quality**
- H. **"Recommended Standards for Water Works"** current edition

Section V
DISINFECTION AND LEAKAGE TEST

- A. **SCOPE.** This section covers the disinfection of the new water mains, fittings, temporary services and associated appurtenances. The Contractor shall provide all labor, materials, tools, equipment, and incidentals required to test the mains for watertightness and disinfect the mains as directed by the District and as specified herein. Gauges for the test shall be furnished by the Contractor.
- B. **TEST SECTION.** After the main has been installed and backfilled all newly installed pipe or any valved section thereof shall be considered a test section.
- C. **WITNESS.** All tests performed for each test section shall be witnessed and approved by the District before acceptance. In the event the Contractor performs any test without witness by the District, the Contractor will be required to test the section again in conformance with this specification at no cost to the District.
- D. **GENERAL.** All disinfection work shall conform to the requirements of the latest revision of ANSI/AWWA C651 and the requirements of the Kentucky Division of Water. If any State requirements conflict with the provisions of this section, the State requirements shall govern.

Water required for flushing and disinfection work will be provided as stipulated in the temporary facilities.

When it is necessary to interrupt service to water customers, each customer affected shall be notified in advance of the proposed service interruption and its probable duration in accordance with the project requirements.

- E. **DISINFECTION PROCEDURE.** During construction or after the installation of the pipe and fittings is complete, an approved disinfection method, according to governing standards, shall be used. The disinfection solution shall be allowed to stand in the main and associated appurtenances for a period of at least twenty-four (24) hours.

During disinfection, all valves, hydrants, and service line connections shall be operated to ensure that all appurtenances are disinfected. Valves shall be manipulated in such a manner that the strong disinfection solution in the main from flowing back into the supply line. Check valves shall be used if required.

All non-disinfected fittings used for tie-ins or repairs shall be cleaned and swabbed with a liquid sodium hypochlorite disinfecting solution prior to installation.

- F. **FINAL FLUSHING.** Upon completion of chlorination but before sampling and bacteriological testing, Contractor shall remove all heavily chlorinated water from the main and temporary services by flushing with potable water at the maximum velocity which can be developed under the direction and control of the District.

The Contractor shall properly neutralize and dispose of the chlorinated water and flushing water in accordance with all applicable regulations. Contractor shall obtain all

special waste disposal permits necessary.

- G. **DISPOSAL OF HEAVILY CHLORINATED WATER.** Contractor shall apply a de-chlorinating agent to the water to be wasted to neutralize thoroughly the chlorine residual remaining in the water. (See the following table for neutralizing chemicals.) Federal, state, and local regulatory agencies should be contacted to determine special provisions for disposal of heavily chlorinated water.

Chlorine residual of water being disposed of shall be de-chlorinated by treating with one of the chemicals listed in the following table:

Pounds of Chemicals Required to De-chlorinate Various Residual Chlorine Concentrations in 100,000 Gallons of Water*

Residual Chlorine Concentration <i>mg/L</i>	Sulfur Dioxide (SO ₂)	Sodium Bisulfate (NaHSO ₃)	Sodium Sulfite (Na ₂ SO ₃)	Sodium Thiosulfate (Na ₂ S ₂ O ₃ @5H ₂ O)
1	0.8	1.2	1.4	1.2
2	1.7	2.5	2.9	2.4
10	8.3	12.5	14.6	12.0
50	41.7	62.6	73.0	60.0

* Except for residual chlorine concentration, all amounts are in pounds.

The Contractor shall provide all necessary materials, equipment and labor for applying the de-chlorinating chemical in a manner such that proper mixing and contact time of the chemical and the heavily chlorinated water is obtained for complete removal of chlorine being flushed. The Contractor shall periodically test the flush water to verify that the chlorine residual is zero.

- H. **CHLORINE RESIDUAL TESTS.** Upon completion of final flushing, the District will perform chlorine residual tests to ensure the chlorine residual in the main and temporary services is not higher than that generally prevailing in the remainder of the water distribution system and is acceptable to the District.
- I. **BACTERIOLOGICAL TESTS.** Sampling and testing of water in the main and temporary services will be performed by the District after final flushing. A standard plate count will be made by the District for each sample.
- J. **REDISINFECTION.** Should the bacteriological tests indicate the presence of coliform organisms at any sampling point, the main and temporary services shall be re-flushed, re-sampled, and re-tested. If check samples show the presence of coliform organisms, the main and temporary services shall be re-chlorinated at no additional cost to the District until results acceptable to the District are obtained.

Re-disinfection shall be completed by the continuous feed or by the slug method. Unless otherwise permitted, the chlorination agent shall be injected into the main and temporary services at the supply end through a corporation cock installed in the top of the pipe. All materials, equipment and labor necessary for the re-disinfection shall be supplied by Contractor at no additional cost to the District.

- K. HYDROSTATIC TESTING. Hydrostatic Testing will be in accordance with AWWA C600. The water main being tested shall have all air expelled by additional flushing or installation of taps on high points in the line. The pressure of the water main shall be gradually increased to obtain a minimum pressure of 100 psi over the design pressure 250 psi. at the lowest elevation point of the water main or as directed by the Engineer. The test will be for a two (2) hour duration and will not vary by more than 5 psi. All tests performed for each test section shall be witnessed and approved by a representative of the Engineer, in the event any test is performed without a representative of the Engineer, the Contractor shall be required to test the section again. Leakage is defined as the amount of water used to maintain the test pressure.

Section VI
VEHICULAR AND PEDESTRIAN TRAFFIC CONTROL

1. **REFERENCE MATERIALS** Traffic shall be maintained in accordance with the "Manual on Uniform Traffic Control" published by the Federal Highway Administration, current edition of Kentucky Department of Highways Standard Specifications for Road & Bridge Construction and current KYDOH Standard Drawings.
2. **PEDESTRIAN TRAFFIC** Should the Contractor be required to remove sidewalk or any other pavement used by pedestrians, the Contractor shall construct an approved, safe, alternate route with acceptable paving materials. Approval for alternate routes and temporary paving materials shall be acquired from the Engineer. The Contractor shall also construct temporary barricades and fences as required. No extra payment will be made for construction of temporary pedestrian walkways, fences or barricades required for water line construction, but shall be considered incidental to water line construction.
3. **VEHICULAR TRAFFIC** Vehicular traffic shall be maintained as required by the referenced materials listed above. The cost of all temporary paving materials for pavement restoration due to water line construction shall be considered incidental to the contract. The cost for all traffic control materials including signs, barricades, etc. shall be considered incidental to the contract. The Contractor shall be required to keep the construction area safe at all times and check that traffic control devices are in place. Should temporary paving materials used for water line construction fail to perform satisfactorily, the Contractor shall repair same at his own expense.

Section VII
TEMPORARY AND PERMANENT RESTORATION

1. **TEMPORARY RESTORATION** Any street, driveway, parking lot, sidewalk, stairs, walls, etc. disturbed by water line construction which is shown on roadway construction plans to be disturbed by roadway construction may be replaced with temporary materials. These temporary materials and their placement shall be approved by the Engineer prior to placement. The cost for temporary paving materials and their placement shall be considered incidental to the cost of water line construction.
2. **PERMANENT RESTORATION** Any street, driveway, parking lot, sidewalk, walls, shrubs, etc. disturbed by water line construction, which is shown on roadway construction plans to remain and not be disturbed by roadway construction, shall be replaced in kind. The concrete, asphalt, and stone removed shall be replaced with the same type material, the same thickness as that removed. All pavement shall be removed and replaced to 1' beyond the limits of excavation as detailed on drawing contained herein. These permanent materials and their placement shall be approved by the Engineer prior to placement. The Contractor shall reconstruct same to the original lines and grades and in such a manner as to leave all such items in fully as good or better condition than that which existed prior to construction. All restoration work shall conform to the requirements of KDOH Standard Specifications for Road and Bridge Construction and to the drawing for pavement restoration contained herein. The cost for this permanent restoration shall be considered incidental to the cost of the water line construction.
3. **SEEDING AND SODDING** This work shall be performed under bid items pertaining to same for roadway construction and in accordance with KDOH Standard Specifications for Road and Bridge Construction

Section VIII
METHOD OF MEASUREMENT AND BASIS OF PAYMENT

A. METHOD OF MEASUREMENT

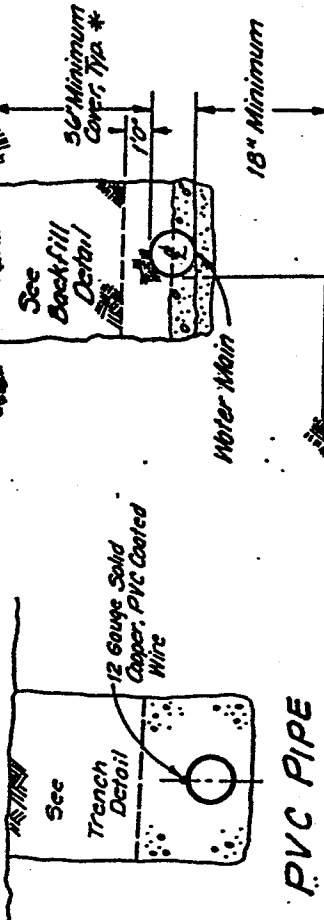
1. Ductile Iron Water Line, each type and size, shall be measured by the linear feet laid in the trench, along the center line of the pipe, thru valves and fittings, to point of contact with existing lines, excluding any portion in concrete encasement or used in water main offsets.
2. Service Pipe, all sizes, shall be measured by the linear feet laid in the trench, excluding meter settings, from water main or existing service line to existing service line.
3. Water Line Undercut, when directed by the Engineer shall be measured along the subgrade for length and width and from pipe subgrade or bottom of fill, if in a fill placed for roadway as a part of this same contract, to bottom of undercut. Water line undercut shall be measured and paid by the cubic feet.
4. Method of Measurement For All Other Items, shall be by each or lump sum as specified for that particular item in "SECTION I, BID ITEM EXPLANATIONS" contained herein.

B. BASIS OF PAYMENT

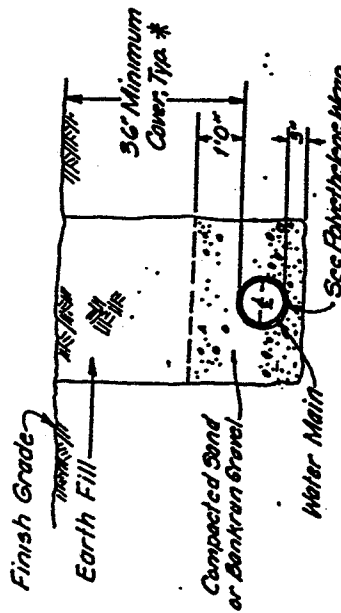
1. Excavation, for water lines from the surface to water line subgrade or to 6" below water line subgrade in rock, for structures, for service lines, or for any other water system item will not be a bid item but shall be considered incidental to the bid item to which it pertains. No additional payment will be made for rock excavation.
2. Water Line Undercut, when directed by the Engineer and/or ND, shall be paid by the cubic yard. The accepted quantities of water line undercut will be paid at the agreed unit price of \$15.00 per cubic yard, which shall also include acquisition and placement of acceptable refill material. Should the Contractor be directed to perform water line undercut, the item "Water Line Undercut" at the agreed unit price of \$15.00 per cubic yard shall be added to the contract by change order.
3. Water Main Fittings, shall be paid EACH, couplings in tie-ins and all fittings in offsets shall be considered incidental to those items.
4. Backfill, for all phases of water line construction shall not be paid separately but shall be considered incidental to water line construction.
5. Temporary Restoration, of streets, roadways, sidewalks, steps, walls, trees, shrubs, etc. shall be considered incidental to water line construction when damaged by water line construction. The cost for this temporary restoration shall be considered incidental to the cost of the water line construction.
6. Traffic Control and Maintenance of Traffic, for a water line construction shall not be paid separately but shall be considered incidental to water line construction.

7. Basis of Payment for all Other Items, shall be by cubic feet, ton, linear feet, square feet, each, or lump sum as specified for that particular item.

ALTERNATE TO BE USED ONLY ON APPROVAL
BY THE DISTRICT



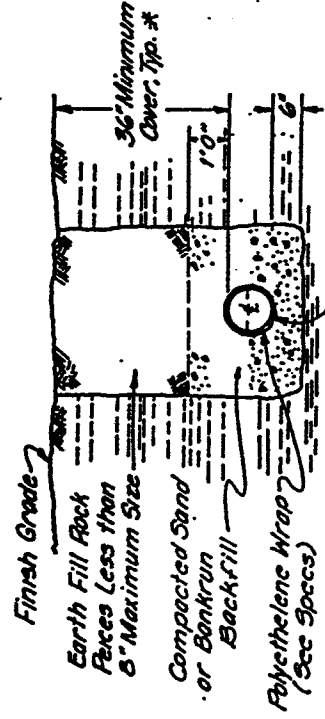
PVC PIPE



EARTH CUTS
TRENCH DETAIL

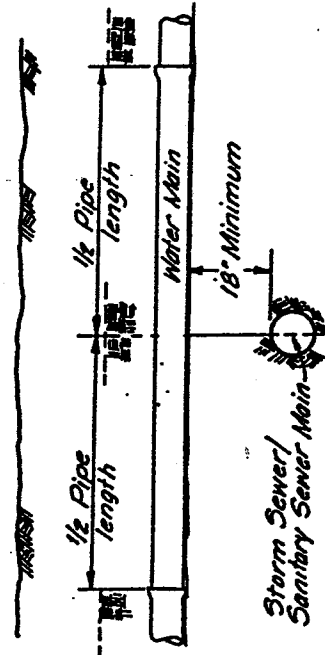
Water Main must be located a minimum of 10 feet
lateral distance from any existing or future sewer
lines or manholes, or as shown in the above alternate.

WATER MAIN PARALLELING
SEWER MAIN

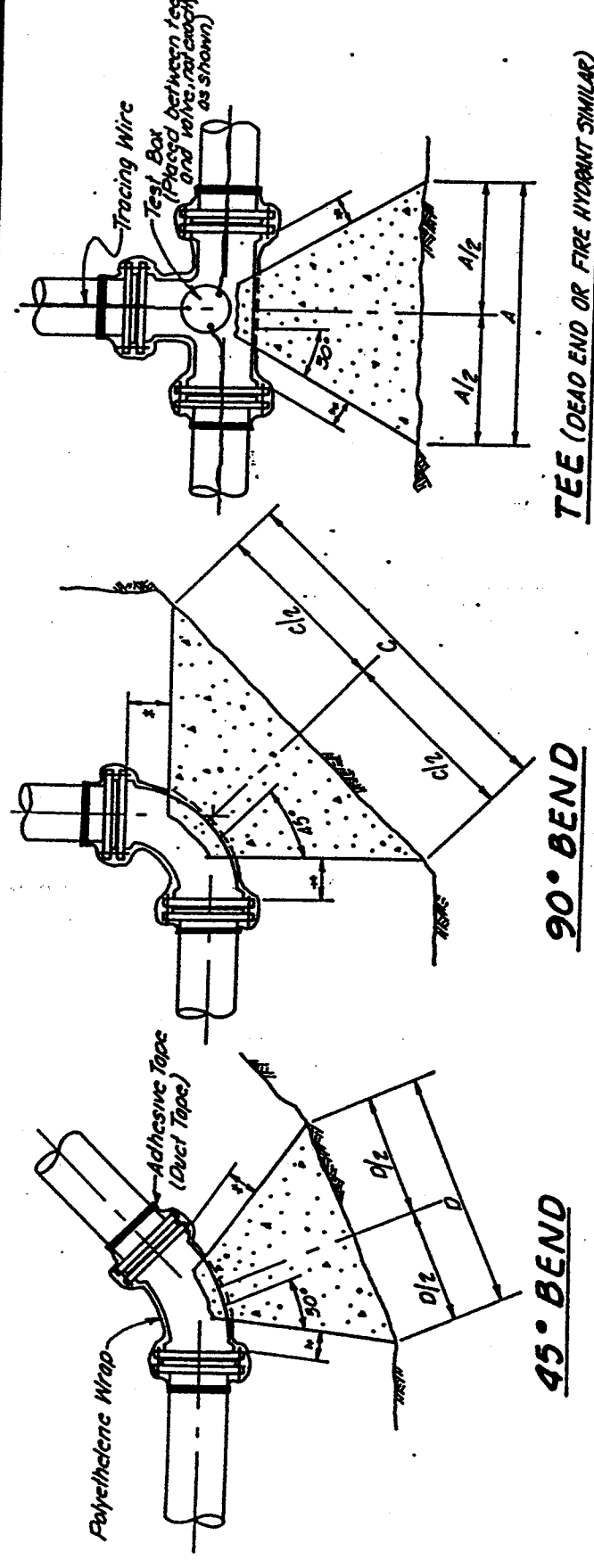


Water Main

ROCK CUTS
& UNSTABLE SUBGRADE
48" Maximum Cover
TRENCH DETAIL



WATER MAIN CROSSING SEWER



150 PSI / 250 PSI

PIPE SIZE	A	B	C	D	E
6"	2'0"/2'6"	1'6"/1'6"	3'0"/3'6"	1'6"/2'0"	1'0"/1'0"
8"	2'6"/3'6"	2'0"/2'0"	3'6"/4'6"	2'0"/2'6"	1'0"/1'6"
10"	3'6"/4'0"	2'6"/2'6"	4'6"/5'6"	2'6"/3'0"	1'6"/1'6"
12"	4'0"/5'0"	3'0"/3'0"	5'6"/6'6"	3'0"/3'6"	1'6"/2'0"
16"	5'0"/6'0"	3'0"/4'0"	7'0"/8'6"	4'0"/4'6"	3'0"/3'0"
20"	6'0"/7'6"	5'0"/5'0"	7'0"/10'6"	4'0"/6'0"	3'0"/3'0"

* Distance to be 1/2" longer than the entire length of the bolt used.

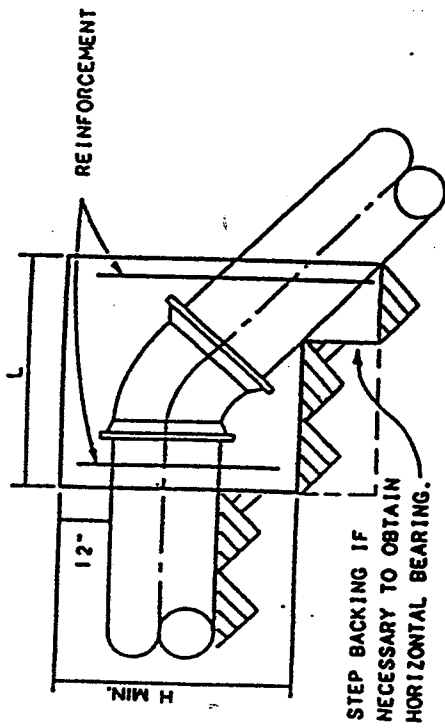
NOTES

- 1 PVC Fittings shall be per specifications.
- 2 Concrete to be 3500 PSI
- 3 All fittings to be Mechanical Joint
- 4 Thrust blocks to be placed against undisturbed earth - use additional concrete as required for over excavation.
- 5 Blocking to be placed in a manner so that bolts can be removed without disturbing the blocking

ELEVATION

Blocking shall be poured after polyethylene wrap is in place.
Blocking shall be inspected by the District prior to backfilling.

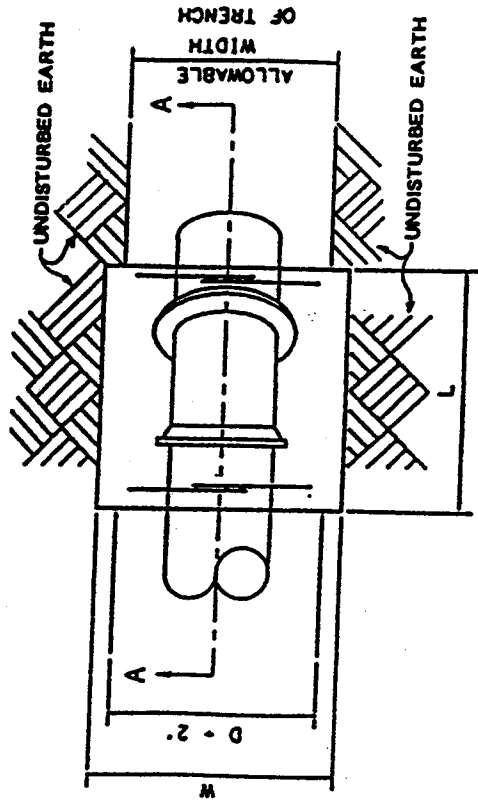
11 1/4" & 22 1/2" BEND



SECTION A-A

CONCRETE BACKING FOR VERTICAL BENDS

1. BACKING DESIGNED FOR 3000 POUNDS PER SQUARE FOOT SOIL BEARING AND 150 POUNDS PER SQUARE INCH INTERNAL PRESSURE.
 2. PROVIDE MINIMUM CONCRETE REINFORCEMENT OF 2 PAIR OF TWO #5 "U" BARS @ 12" C/C
 3. CENTER BACKING ON BEND.
- BLOCKING FOR SIZES NOT SHOWN SHALL USE THE NEXT LARGER SIZE.



PLAN

Size of Pipe	DEGREE OF BEND									
	11 1/4			22 1/2			45			
	L" W" H"	Vol.	L" W" H"	Vol.	L" W" H"	Vol.	L" W" H"	Vol.	L" W" H"	Vol.
4"	12 24 16	2.7	15 30 18	4.7	22 36 24	11.0				
6"	12 43 18	5.4	16 48 34	15.1	30 55 24	22.9				
8"	12 54 24	9.0	18 57 36	21.4	36 57 33	39.2				
12"	20 63 36	26.3	37 62 37	49.2	48 62 51	88.0				
16"	31 65 38	44.4	60 65 39	88.2	65 65 65	159.2				
20"	45 70 40	73.0	56 70 60	136.4	72 76 78	247.5				
24"	47 72 54	106.0	67 74 69	198.4	88 84 84	360.1				

NOTE: VOLUMES GIVEN IN CUBIC FEET

WPS 6/28/93
WPS 9/28/93

REVISION
20 Concrete Pad use
Detail Valve Box
Installation

N. KY. WATER SERVICE DISTRICT

VALVE BOX AND VALVE PAD DETAIL

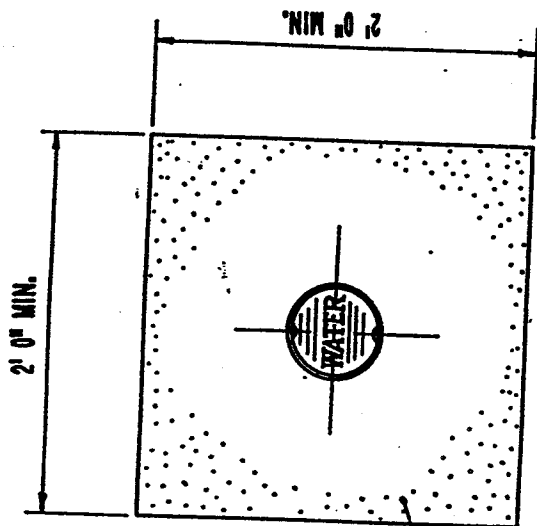
APPROVED

RH

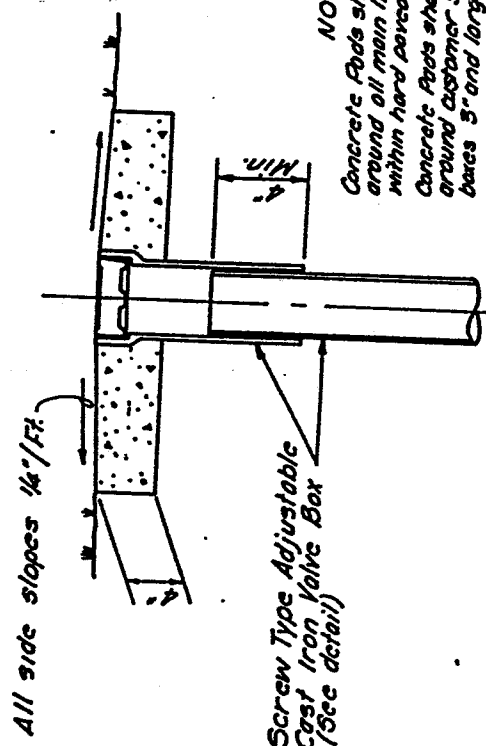
DATE
12/31/97

STANDARD
DRAWING NO

105

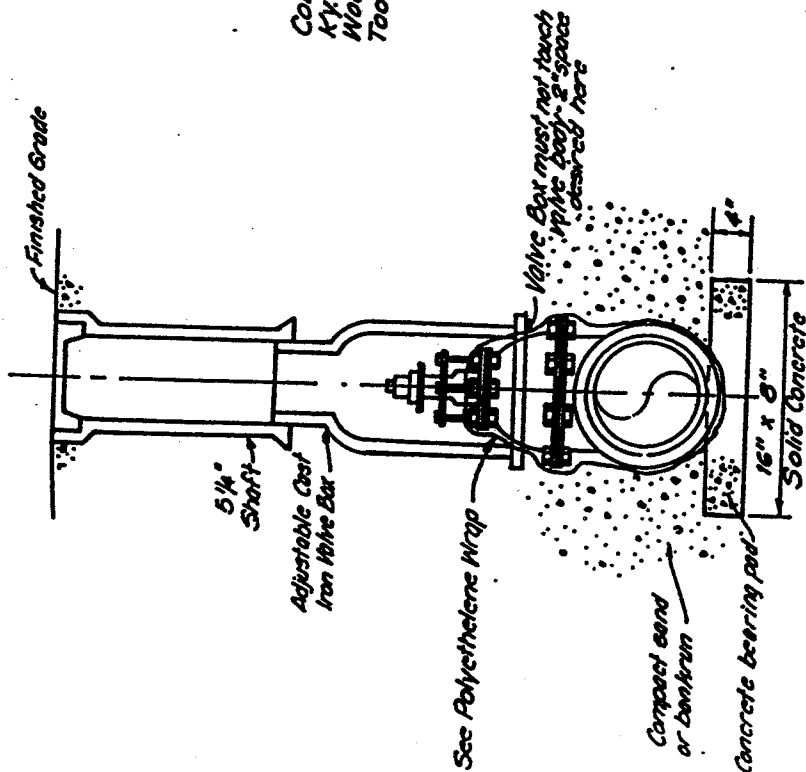


PLAN



ELEVATION

NOTES
Concrete Pads shall be constructed around all main line valve boxes except within hard paved areas.
Concrete Pads shall be constructed around customer service line valve boxes 5" and larger valves.



DETAIL VALVE BOX INSTALLATION

Note: Valve box shall not transmit shock or stress to the valve.

(4)

3'0" Square Concrete Pad
5" Thick with (2) #4 Reinf.
Bars of each side

Finished Grade

Curb Stop Box

Curb Stop - "Ford"
No. B21-777 Or
Approved equal

"Type K" Copper

Corporation Stop
Ford Type F6250
or Approved equal
@ Top of Main

Water Main

Stop Up

Ring & Lid - Ford Type A 32
Single Lid Cover 18" I.D. Tile
Size, 1 1/8" Lid Opening, 4" Deep
or approved equal.

24" Max.
18" Min.

18" I.D. x 24" High Ultra Rib Type

Air Release Valve -
Size & Operating Pressure - See
Specifications

Grade "A" Red Brass Threaded Pipe

Concrete Brick as required to support box.

6" Deep Pea Gravel

NOTE: Air Release Valve to be centered
over water main.
Air Release Valves larger than 1" use:
1 1/2" size, 24" x 24"
12" Ford Type MC-34
Extension Ring Ext. 2 or approved equal.

(5)

N. KY. WATER SERVICE DISTRICT

AIR RELEASE VALVE

APPROVED.

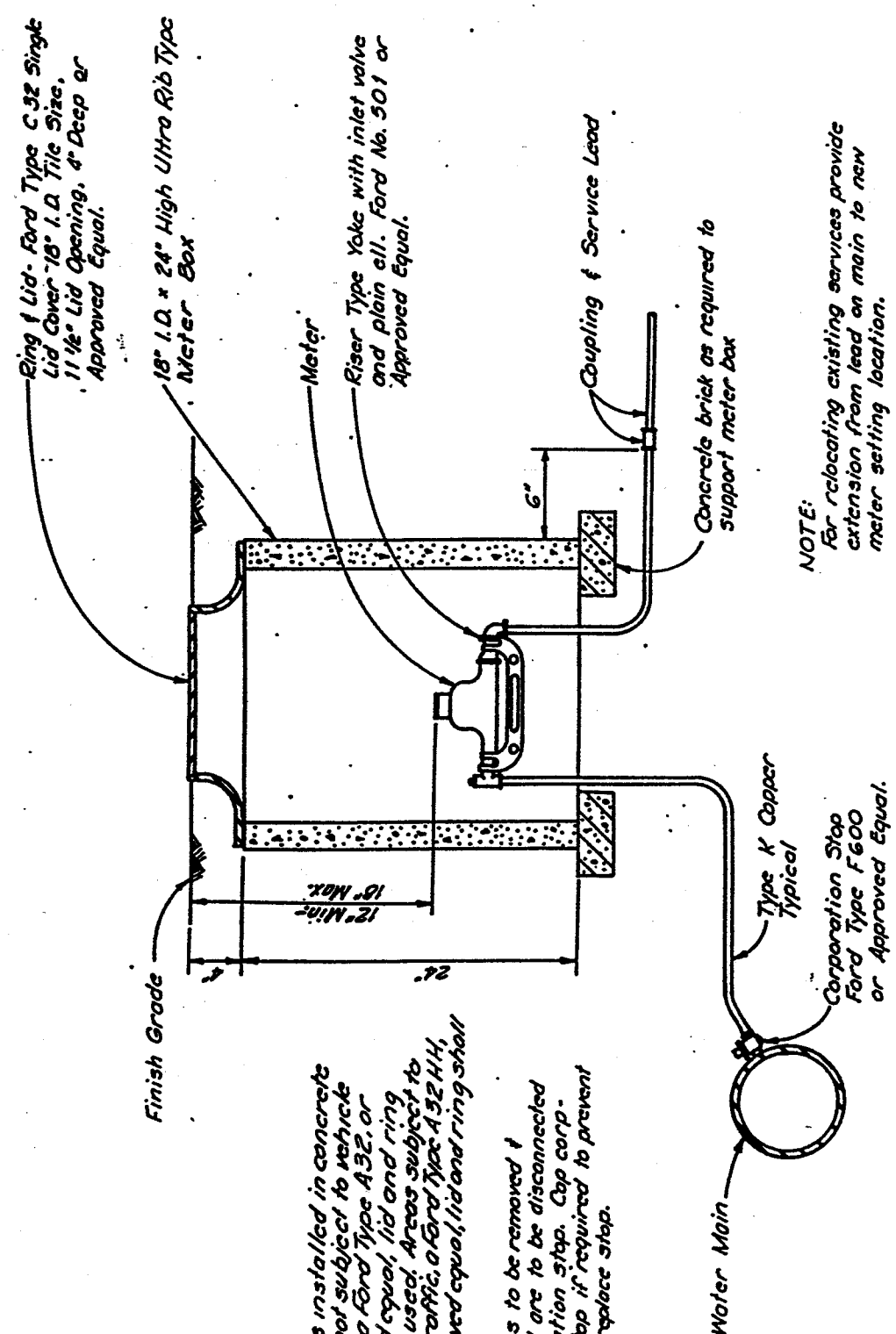
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STANDARD
DRAWING NO.

106

REVISION
BY DATE



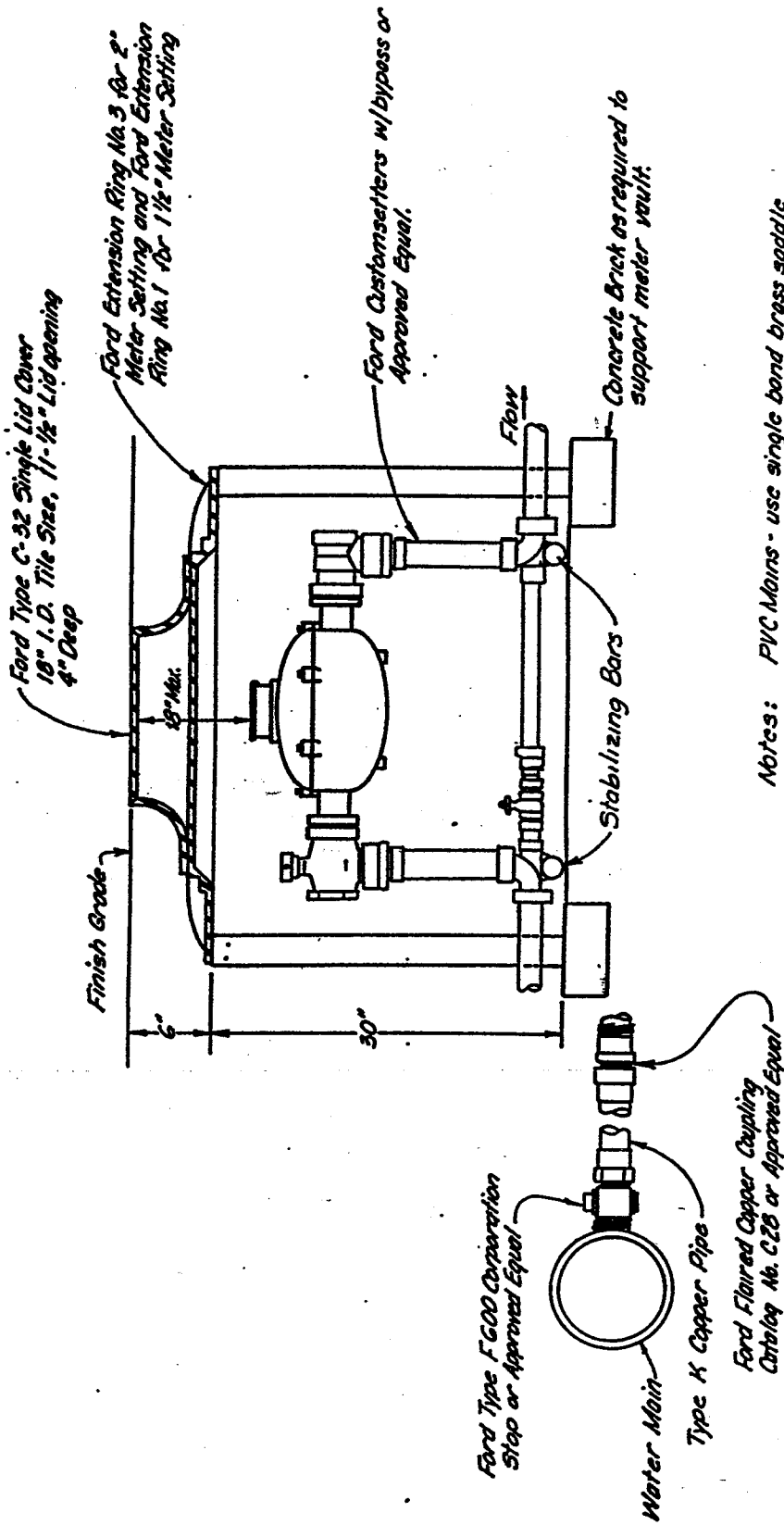
NOTE:
For relocating existing services provide extension from lead on main to new meter setting location.

Note:
Services installed in concrete areas, not subject to vehicle traffic, a Ford Type A32, or approved equal, lid and ring shall be used. Areas subject to vehicle traffic, a Ford Type A32 H.H. or approved equal, lid and ring shall be used.
NOTE:
Services to be removed & abandoned are to be disconnected at corporation stop. Cap corp. oration stop if required to prevent leaks or replace stop.

PVC Mains - Use single band brass saddle Ford Type 101 BS or equal.

Note: Services to be removed & abandoned are to be disconnected at corporation stop. Cap corporation stop if required to prevent leaks or replace stop. For relocating existing services provide extension from lead on main to new meter setting location.

Note: If service is installed in sidewalk, a monitor lid & ring shall be installed.



Notes: PVC Mains - use single bond brass saddle Ford Type 101BS or equal.
 D.I.P. Mains 8" or smaller use a double strap brass tapping saddle Ford Type 202B or Equal.

Ford Type FG00 Corporation Stop or Approved Equal

Water Main

Type K Copper Pipe

Ford Flared Copper Coupling Catalog No. C-25 or Approved Equal

N. KY. WATER SERVICE DISTRICT
 1-1/2" 8 2" METER SETTING

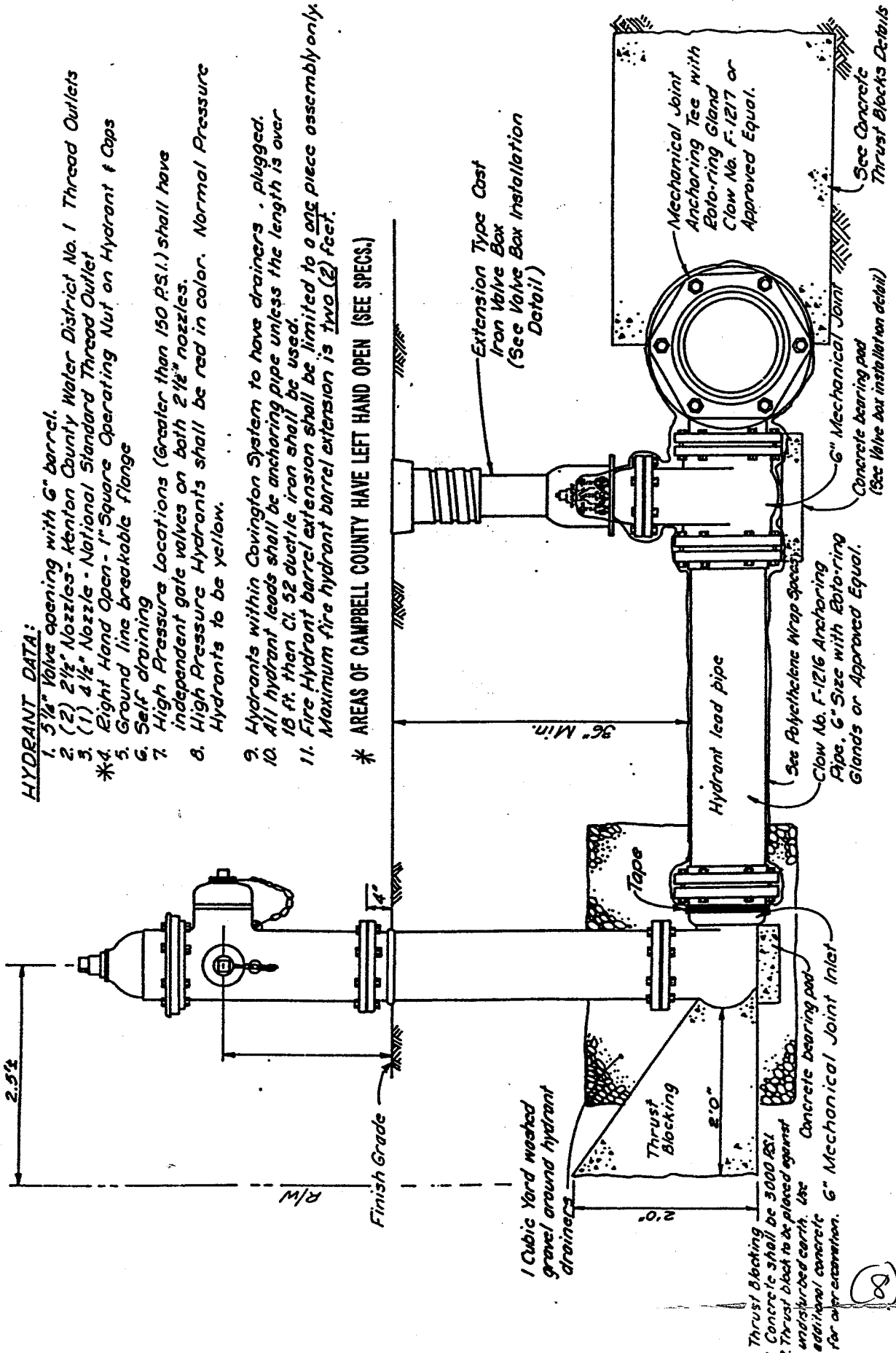
APPROVED: RTH

DATE: 12/31/97

STANDARD DRAWING NO.:

108

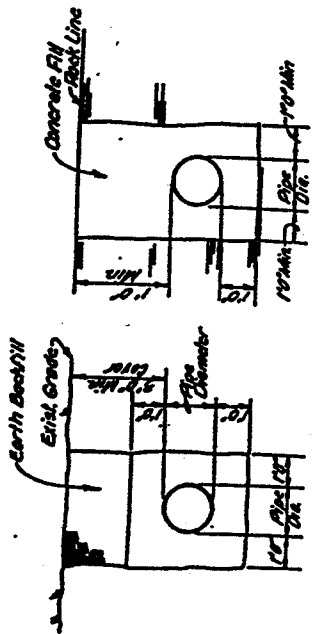
REVISION BY DATE



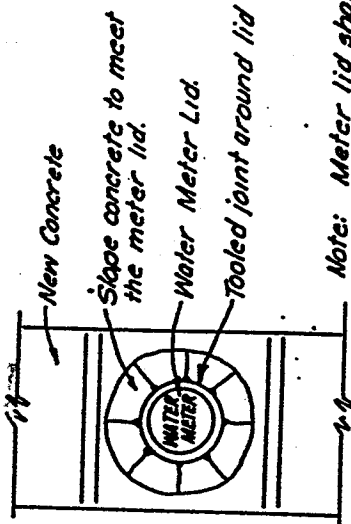
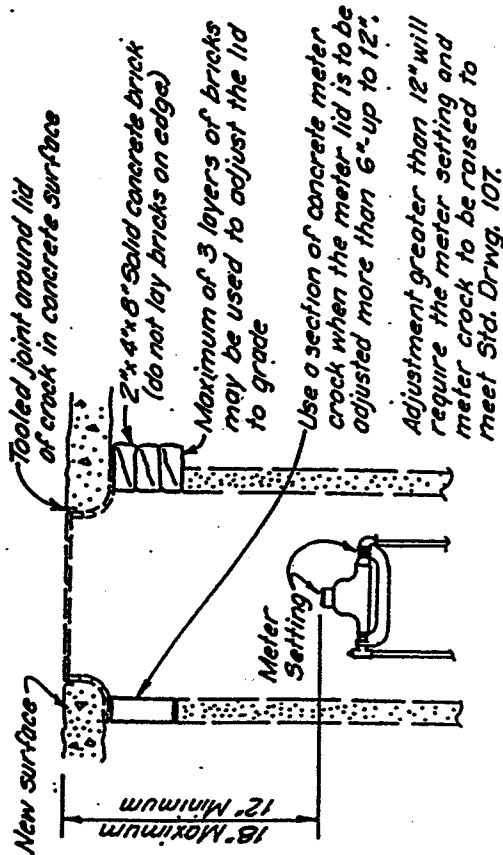
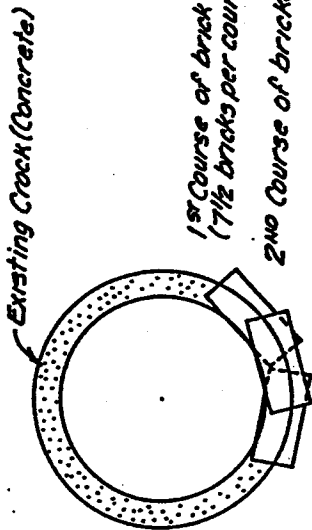
HYDRANT DATA:

1. 5 1/4" Valve opening with 6" barrel.
2. (2) 2 1/2" Nozzles - Kenton County Water District No. 1 Thread Outlets
3. (1) 4 1/2" Nozzle - National Standard Thread Outlet
- * 4. Right Hand Open - 1" Square Operating Nut on Hydrant & Caps
5. Ground line breakable flange
6. Self draining
7. High Pressure Locations (Greater than 150 P.S.I.) shall have independent gate valves on both 2 1/2" nozzles.
8. High Pressure Hydrants shall be red in color. Normal Pressure Hydrants to be yellow.
9. Hydrants within Covington System to have drainers - plugged.
10. All hydrant leads shall be anchoring pipe unless the length is over 18 ft. then Cl. 52 ductile iron shall be used.
11. Fire Hydrant barrel extension shall be limited to a one piece assembly only. Maximum fire hydrant barrel extension is two (2) feet.

* AREAS OF CAMPBELL COUNTY HAVE LEFT HAND OPEN (SEE SPECS.)



VALVE & TEST TAP DETAIL
Valve shall be installed in areas not subject to flooding
No services will be tapped between the isolating valve
on the creek crossings.



Note: Meter lid shall be flush with with the top of the concrete surface. The concrete surface shall be tapered to provide a smooth transition to the meter lid. A tooled joint shall be formed around the meter lid.

NOTE: SERVICES INSTALLED IN CONCRETE AREAS, NOT SUBJECT TO VEHICLE TRAFFIC, A FORD TYPE A32, OR APPROVED EQUAL, LID AND RING SHALL BE USED. AREAS SUBJECT TO VEHICLE TRAFFIC, A FORD TYPE A32H, OR APPROVED EQUAL, LID AND RING SHALL BE USED.

RAISING WATER METER LIDS:

CONCRETE WATER METER CRACKS shall be raised by the use of an additional section of crack cut to achieve final grade by using seven (7) 2" x 4" x 8" solid concrete bricks. The bricks shall be set in a continuous row, laid flat, and the crack shall be filled with concrete. If the crack is not filled with concrete, the meter crack shall be filled with concrete. If the crack is not filled with concrete, the meter crack shall be filled with concrete. If the crack is not filled with concrete, the meter crack shall be filled with concrete.

PLASTIC (PVC) METER CRACKS shall be raised by use of an adaptor with a section of plastic crack cut to achieve final grade.

At no time shall wood be used to adjust the ring and lid to grade.

Meter ring and lid shall be reset solidly and shall have no broken edges to allow dirt to enter the crack.

If the meter box is damaged beyond repair it shall be replaced. See Standard Drawing 107.

RAISING CURB STOPS OR VALVE BOXES:

Curb stop boxes and valve boxes shall be raised by turning the upper section to meet grade. The upper section cannot be raised in this manner it shall be carefully broken off and replaced.

New upper sections shall be supplied by the Kenton County Water District No. 1.

(10)

SPECIAL NOTES FOR UTILITY CLEARANCE IMPACT ON CONSTRUCTION

KENTON COUNTY
FD04 059 583090 01D
KY-17 IMPROVEMENTS AT
HIGHLAND PIKE & ORPHANAGE ROAD
Item No. 06-0350.00 & 06-0350.10

Cinergy/Union Light Heat and Power Company (Gas) facilities are to be relocated by the road contractor using plans inserted into the roadway project plans and specifications inserted in the project proposal.

Only those contractors preapproved by the gas company and listed at the end of the gas specifications inserted in the proposal can perform gas relocation construction on this project. The prequalified contractors listed may or may not be prequalified by the Transportation Cabinet. It will be the bidder's responsibility to verify prequalification with the Cabinet. This listing was provided by Cinergy/ULH&P. The fact that a contractor is included on this list does not preclude that contractor from having to be prequalified by the Transportation Cabinet.

All existing gas services are to be maintained throughout road construction. Temporary gas facilities to maintain a customer service are to be provided and paid for by the road contractor as incidental to road construction. No additional compensation will be paid the contractor for temporary work and materials to maintain existing gas services.

The unit cost for gas relocation items has been preset in the road contract as follows:

Item	Unit	Quantity	Unit Cost
Install Plastic Gas Main – 4 Inch	LF	664	\$ 33.00
Install Plastic Gas Main – 6 Inch	LF	602	\$ 35.00
Install SWPC Gas Main – 6 Inch	LF	125	\$ 68.00
Tie In 6" PL to 6" PL or 4" PL	EA	3	\$ 2,500.00
Tie In 6" SWPC to 6" SWPC	EA	6	\$ 4,500.00
Plastic Long Side Service	EA	5	\$ 600.00
Plastic Short Side Service	EA	2	\$ 400.00

A "**Gas Utility Coordination**" item is shown on the General Summary Sheet and has been established in the road contract for consideration by the road contractor. This item is provided, if needed, as compensation for any additional coordination to accommodate the inclusion of gas utility work with the roadway construction. The road contractor can freely bid this item.

Northern Kentucky Water District facilities are to be relocated by the road contractor using plans inserted into the project plans and specifications inserted into the proposal.

All existing water services are to be maintained throughout road construction. Temporary water facilities to maintain service are to be provided by and paid for by the road contractor as incidental to road construction. No additional compensation will be paid the contractor for temporary work and materials to maintain existing water services.

Kentucky Division of Water permits for water relocation construction was not available before bidding and will be distributed at the preconstruction conference.

Cinergy/Union Light, Heat and Power (Electric), Cincinnati Bell Telephone and Insight Communications (CATV) facilities will be relocated by the utility owners. These companies should complete permanent or temporarily relocation to accommodate road construction by January 15, 2003. These utility companies will still be performing work on the project when the contractor arrives. The road contractor is to coordinate and cooperate with these companies until completion of their respective utility work.

Sanitation District No. 1 facilities are to be relocated by the road contractor using plans inserted into the grade and drain plans and specifications inserted in the project proposal.

A Kentucky Division of Water permit for Sanitary Sewers will NOT be required on this project.

Railroads are not involved in this project.

PROTECTION OF UTILITIES

THE LOCATION OF UTILITIES PROVIDED IN THE CONTRACT DOCUMENTS HAS BEEN FURNISHED BY THE FACILITY OWNERS AND/OR BY REVIEWING RECORD DRAWINGS AND MAY NOT BE ACCURATE. IT WILL BE THE ROADWAY CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITIES BEFORE EXCAVATING BY CALLING THE VARIOUS UTILITY OWNERS AND BY EXAMINING ANY SUPPLEMENTAL INFORMATION SUPPLIED BY THE CABINET. IF NECESSARY, THE ROADWAY CONTRACTOR SHALL DETERMINE THE EXACT LOCATION AND ELEVATION OF UTILITIES BY HAND DIGGING TO EXPOSE UTILITIES BEFORE EXCAVATING IN THE AREA OF A UTILITY. THE COST FOR REPAIR AND ANY OTHER ASSOCIATED COSTS FOR ANY DAMAGE TO UTILITIES CAUSED BY THE ROADWAY CONTRACTOR'S OPERATIONS SHALL BE BORNE BY THE ROADWAY CONTRACTOR.

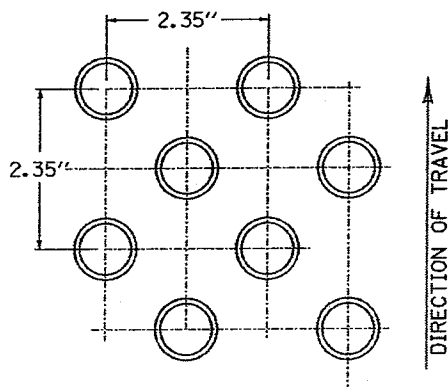
THE CONTRACTOR IS ADVISED TO CONTACT THE BUD ONE-CALL SYSTEM; HOWEVER, THE CONTRACTOR SHOULD BE AWARE THAT OWNERS OF UNDERGROUND FACILITIES ARE NOT REQUIRED TO BE MEMBERS OF THE BUD ONE-CALL SYSTEM. IT MAY BE NECESSARY FOR THE CONTRACTOR TO CONTACT THE COUNTY COURT CLERK TO DETERMINE WHAT UTILITY COMPANIES HAVE FACILITIES IN THE PROJECT AREA.

SPECIAL NOTE FOR DETECTABLE WARNINGS FOR SIDEWALK RAMPS

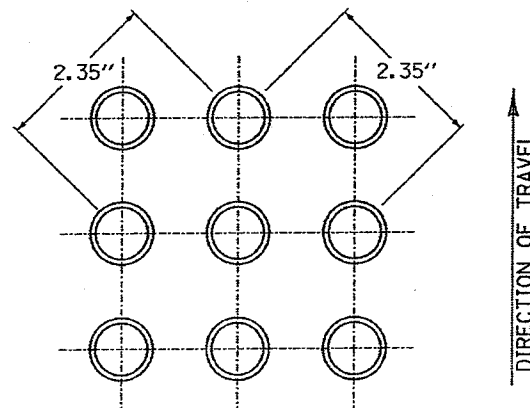
This Special Note will apply when indicated on the plans or in the proposal.

1.0 DESCRIPTION. Install detectable warnings at all sidewalk ramps.

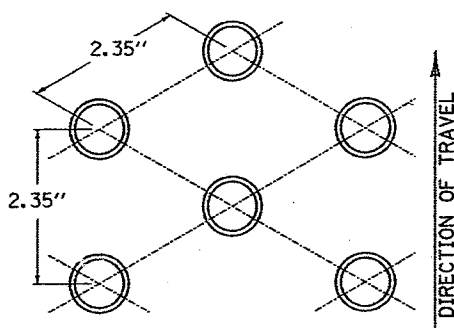
2.0 MATERIALS. Use precast concrete pavers having a minimum thickness of 2 inches and truncated domes at the nominal dimensions shown below. Ensure their color is homogeneous throughout the paver and contrasts visually with adjoining surfaces, either light-on-dark or dark-on-light. The Department will allow either bright yellow or bright red as colors. The Department will consider Hanover Detectable Warning Pavers of Hanover Pennsylvania, Interlock Tactile Stone of Carlsbad California, and other equivalent pavers as acceptable. Obtain the Engineer's written approval before providing equivalent pavers.



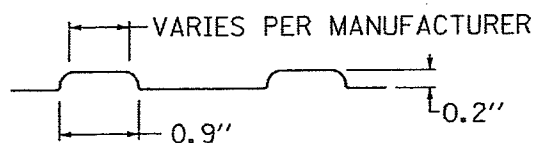
**SQUARE PATTERN
(DIAGONAL ALIGNMENT)**



**SQUARE PATTERN
(PARALLEL ALIGNMENT)**



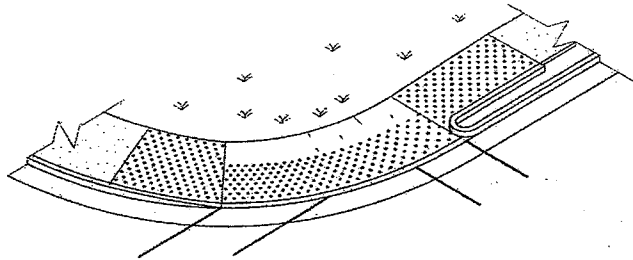
TRIANGULAR PATTERN



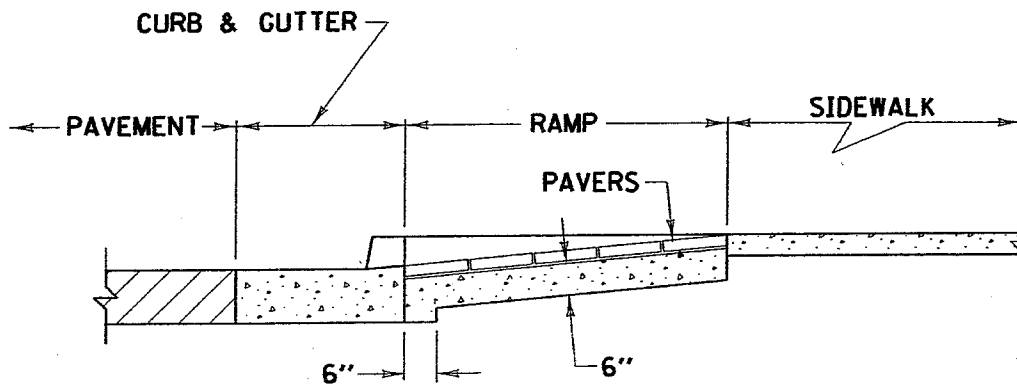
TRUNCATED DOME PROFILE

3.0 CONSTRUCTION. Install detectable warnings that extend the full surface width and length of the ramp. If a walkway crosses or adjoins a vehicular way, and the walking surfaces are not separated by curbs, railings, or other elements between the pedestrian areas and vehicular

areas, define the boundary between the areas with a continuous warning with a minimum width of 36 inches. Install the detectable warning pavers as shown below and according to the manufacture's recommendations.



TYPICAL DETECTABLE WARNING PLACEMENT



TYPICAL DETECTABLE WARNING INSTALLATION

4.0 Measurement and Payment. The Department will not measure Detectable Warnings or their application for payment and will consider them incidental to Concrete Sidewalk.

May 29, 2002

PART II

SPECIAL PROVISIONS APPLICABLE TO PROJECT

SPECIAL PROVISION NO.

TITLE

NO SPECIAL PROVISIONS APPLY TO THIS PROJECT

PART III

EMPLOYMENT, WAGE AND RECORD REQUIREMENTS
(Copies of each Attached)

1. Schedule of Minimum Wages Established for the Project.
2. Labor and Wage Requirements, applicable to other than Federal-Aid System Contracts. (Rev. 2-16-95)
3. Executive Branch Code of Ethics.

**TRANSPORTATION CABINET
DIVISION OF CONTRACT PROCUREMENT
COMPLIANCE SECTION**

SHEET ONE

LETTING: 10-25-2002

PROJECT WAGE RATES

KENTON COUNTY, FD04 059 0017 018-020

KY 17

Grade, Drain and Asphalt Surface and PCC Pavement

BASIC HOURLY		HIGHWAY FRINGE
CRAFTS	RATES	BENEFIT PAYMENTS COMBINED
Bricklayers	22.96	7.39
Boone, Campbell, Kenton and Pendleton Counties:		
Carpenters and Piledrivermen....	22.42	4.73
Divers	33.63	4.73
Millwrights	21.90	7.92
Cement Masons	21.03	6.00
Electricians	23.53	7.20
Sound Communications:		
Installer	18.00	3.475
Cable Puller	9.00	2.64
Ironworkers:		
Reinforcing: Up to and including 30- mile radius of Hamilton County, Ohio Courthouse	22.71	10.47
Beyond 30- mile radius of Hamilton County, Ohio Courthouse	22.96	10.47
Structural	23.45	10.88
Fence Erector	21.11	10.88
Painters:		
Elevated Tanks	22.05	4.70
(Heavy and Highway Bridges- Guardrails-Lightpoles-Striping):		
Bridge/Equipment Tender and/or		
Containment Builder	18.74	4.70
Brush and Roller	21.05	4.70
Spray	21.55	4.70
Sandblasting and Hopper Tender;		
Water Blasting	21.80	4.70
Bridges when highest point of Clearance is 60 feet or more;		
& Lead Abatement Projects	22.05	4.70
Sandblasting, Hopper Tender,		
Waterblasting (Bridges when highest point of Clearance is 60 feet or more...		
Plumbers.....	25.50	7.53

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

**TRANSPORTATION CABINET
DIVISION OF CONTRACT PROCUREMENT
COMPLIANCE SECTION**

PROJECT WAGE RATES

SHEET TWO

10-25-2002

KENTON COUNTY, FD04 059 0017 018-020

LABORERS:

Pendleton County:

Aging and curing of concrete, asbestos abatement worker, asphalt plant, asphalt, batch truck dump, carpenter tender, cement mason tender, cleaning of machines, concrete, demolition, dredging, drill tender, environmental -- nuclear, radiation, toxic and hazardous waste - level D, flagperson, grade checker, hand digging and hand back filling, highway marker placer, landscaping, mesh handler and placer, puddler, railroad, rip-rap and grouter, right-of-way, sign, guardrail and fence installer, signal person, sound barrier installer, storm and sanitary sewer, swamper, truck spotter and dumper and wrecking of concrete form.

BASE RATE.....16.34

FRINGE BENEFITS..... 7.38

Batter board man (sanitary and storm sewer), brickmason tender, mortar mixer operator, burner and welder, bushhammer, chain saw operator, concrete saw operator, deckhand scow man, dry cement handler, environmental - nuclear, radiation, toxic and hazardous waste - level C, forklift operator for masonry, form setter, green concrete cutting, hand operated grouter and grinder machine operator, jackhammer, pavement breaker, paving joint machine, pipelayer, plastic pipe fusion, power driven Georgia buggy and wheel barrow, power post hole digger, precast manhole setter, walk-behind tamper, walk-behind trencher, sand blaster, concrete chipper, surface grinder, vibrator operator and wagon driller.

BASE RATE.....16.59

FRINGE BENEFITS..... 7.38

Air track driller, asphalt luteman and raker, gunnite nozzleman, gunnite operator and mixer, grout pump operator, powderman and blaster, side rail setter, rail paved ditch, screw operator, tunnel (free air) and water blaster.

BASE RATE.....16.64

FRINGE BENEFITS..... 7.38

Caisson worker (free air), cement finisher, environmental - nuclear, radiation, toxic and hazardous waste - levels A and B, miner and driller (free air), tunnel blaster and tunnel mucker (free air).

BASE RATE.....17.24

FRINGE BENEFITS..... 7.38

Four/Federal-State

**TRANSPORTATION CABINET
DIVISION OF CONTRACT PROCUREMENT
COMPLIANCE SECTION**

PROJECT WAGE RATES

SHEET THREE 10-25-2002

KENTON COUNTY, FD04 059 0017 018-020

LABORERS: (continued)

Boone, Campbell and Kenton Counties:

Asphalt laborer, carpenter tender, concrete curing applicator, dump man (batch truck), guardrail and fence installer, joint setter, laborer (construction), landscape laborer, mesh handlers and placer, right-of-way laborer, riprap laborer and grouter, scaffold erector, seal coating, surface treatment or road mix laborer, sign installer, slurry seal, utility man, bridgeman, handyman, waterproofing laborer, flagperson, hazardous waste (level D), diver tender, zone person & traffic control.

BASE RATE.....21.32
FRINGE BENEFITS..... 4.45

Skidsteer, asphalt raker, concrete puddler, kettle man (pipeline), machine driven tools (gas, electric, air), mason tender, brick paver, mortar mixer, power buggy or power wheelbarrow, sheeting & shoring man, surface grinder man, plastic fusing machine operator, pug mill operator, & vacuum devices (wet or dry), rodding machine operator, diver, screw man or paver, screed person, water blast, hand held wand, pumps 4" and under (gas, air or electric), hazardous waste (level C), air track and wagon drill, bottom person, cofferdam (below 25 ft. deep), concrete saw person, cutting with burning torch, form setter, hand spiker (railroad), pipelayer, tunnel laborer (without air) & caisson, underground person (working in sewer and waterline, cleaning, repairing and reconditioning), sandblaster nozzleperson and hazardous waste (level B).

BASE RATE.....21.49
FRINGE BENEFITS..... 4.45

Blaster, mucker, powder person, top lander, wrencher (mechanical joints and utility pipeline), yarner, hazardous waste (level A), concrete specialist, concrete crew in tunnels (with air pressurized \$1.00 premium), curb setter & cutter, grade checker, utility pipeline tapper, waterline, and caulker.

BASE RATE.....21.82
FRINGE BENEFITS..... 4.45

Miner (with air pressurized \$1.00 premium), and gunnite nozzle person.

BASE RATE.....22.27
FRINGE BENEFITS..... 4.45

Signal person will receive the rate equal to the rate paid the labor classification for which he or she is signaling.

**TRANSPORTATION CABINET
DIVISION OF CONTRACT PROCUREMENT
COMPLIANCE SECTION**

PROJECT WAGE RATES

SHEET FOUR

10-25-2002

KENTON COUNTY, FD04 059 0017 018-020

TEAMSTERS:

Drivers

BASE RATE.....15.85

FRINGE BENEFITS..... 4.60

Euclid wagon, end dump, low-boy, heavy duty equipment, tractor-trailer combination & drag.

BASE RATE.....16.29

FRINGE BENEFITS..... 4.60

OPERATING ENGINEERS:

Master Mechanic

BASE RATE.....25.59

FRINGE BENEFITS..... 7.10

Air compressor on steel erection, barrier moving machine, boiler operator on compressor or generator when mounted on a rig, cableway, combination concrete mixer and tower, concrete plant (over 4 yd. capacity), concrete pump, crane (including boom truck, cherry picker), derrick, dragline, dredge (dipper, clam, or suction), elevating grader or Euclid loader, floating equipment, gradeall, helicopter crew (operator - hoist or winch), hoe, hoisting engine on shaft or tunnel work, industrial type tractor, jet engine dryer (D8 or D9), diesel tractor, locomotive (standard gauge), mixer, (paving, single or double drum), mucking machine, multiple scraper, piledriving machine, power shovel, prentice loader, Quad 9 (double pusher), refrigerating machine (freezer operation), side boom, slip-form paver, tower derrick, tree shredder, trench machine (over 24" wide), truck mounted concrete pump, tug boat, tunnel machine and/or mining machine, wheel excavator, hydraulic gantry (lifting system), rail tamper (w/auto lifting and aligning device), maintenance operator class A, rough terrain fork lift with winch/hoist.

BASE RATE..... 25.34

FRINGE BENEFITS 7.10

Asphalt paver, automatic subgrade machine (self-propelled CMI type), Bobcat type and/or skid steer loader with hoe attachment greater than 7,000 lbs., boring machine more than 48", bulldozer, endloader, Kolman-type loader (production type-dirt), lead grease man, power grader, power scraper, push cat, trench machines (24" wide and under), concrete grinder/planer, pettibone-rail equipment, vermeer type concrete saw, hydro milling machine, lighting & traffic signal installation equipment, material transfer equipment (shuttle buggy) asphalt.

BASE RATE.....25.22

FRINGE BENEFITS..... 7.10

Four/Federal-State

**TRANSPORTATION CABINET
DIVISION OF CONTRACT PROCUREMENT
COMPLIANCE SECTION**

PROJECT WAGE RATES

SHEET FIVE

10-25-2002

KENTON COUNTY, FD04 059 0017 018-020

OPERATING ENGINEERS: (continued)

A-Frame, air compressor on tunnel work (low pressure), asphalt plant engineer, locomotive (narrow gauge), mixer, concrete (more than one bag cap.), mixer one bag capacity (side loader), power boiler over 15 lb. pressure, pump operator installing and operating well points, pump (4" and over discharge), roller-asphalt, utility operator (small equipment), welding machine, bobcat type and/or skid steer loader, switch and tie tamper (w/o lifting & aligning device), highway drills, railroad tie inserter/remover, Rotovator (lime-soil stabilizer).

BASE RATE.....24.18

FRINGE BENEFITS..... 7.10

Backfiller, bar & joint installing machines, batch plant, bull floats, burlap and curing machine, concrete plant (capacity 4 yd. and under), concrete saw (multiple), conveyor (highway), crusher, deckhand, farm type tractors with attachments (highway except masonry), finishing machine, fireperson, floating equipment, fork lift (highway), form trencher, hydro seeder, plant mixer, post driver, post hole digger (power auger), road widening trencher, roller (brick, grade, macadam), self-propelled power spreader, self-propelled subgrader, steam fireperson, tractor (pulling sheepfoot roller or grader), boring machine operator (48" or less), hydro hammer, pavement breaker, ballast relocater, power brush burner, power form handling equipment, vibratory compactor with integral power.

BASE RATE.....23.00

FRINGE BENEFITS..... 7.10

Compressor (portable, sewer, heavy & highway), drum fireperson (in asphalt plant), generator, oiler, inboard-outboard motorboat-launch, oil heater (asphalt plant), power driven heater, pump (under 4" discharge), signalperson, tire repairperson, masonry fork lift, power sweeper, power scrubber, VAC/ALLS.

BASE RATE17.84

FRINGE BENEFITS..... 7.10

Fringe benefit amounts are applicable for all hours worked except when otherwise noted.

These rates are listed pursuant to Kentucky Determination No. CR-01-IV HWY dated October 8, 2001 and/or Federal Decision No. KY 020028 dated March 1, 2002, modification #1 dated April 5, 2002, modification # 2 dated May 3, 2002, modification #3 dated June 21, 2002, modification #4 dated July 5, 2002, modification #5 dated August 16, 2002 and modification #6 dated September 13, 2002.

No laborer, workman or mechanic shall be paid at a rate less than that of the General Laborer except those classified as bona fide apprentices.

**TRANSPORTATION CABINET
DIVISION OF CONTRACT PROCUREMENT
COMPLIANCE SECTION**

PROJECT WAGE RATES

SHEET SIX

10-25-2002

KENTON COUNTY, FD04 059 0017 018-020

Apprentices or trainees shall be permitted to work as such subject to Administrative Regulations adopted by the Commissioner of Workplace Standards. Copies of these regulations will be furnished upon request from any interested person.

Before using apprentices on the job the contractor shall present to the Contracting Officer written evidence of registration of such employees in a program of a State apprenticeship and training agency approved and recognized by the U. S. Bureau of Apprenticeship and Training. In the absence of such a State agency, the contractor shall submit evidence of approval and registration by the U. S. Bureau of Apprenticeship and Training.

The contractor shall submit to the Contracting Officer, written evidence of the established apprenticeship-journeyman ratios and wage rates in the project area, which will be the basis for establishing such ratios and rates for the project under the applicable contract provisions.

TO: EMPLOYERS/EMPLOYEES

PREVAILING WAGE SCHEDULE:

The wages indicated on this wage schedule are the least permitted to be paid for the occupations indicated. When an employee works in more than one classification, the employer must record the number of hours worked in each classification at the prescribed hourly base rate.

OVERTIME:

Overtime is to be paid after an employee works eight (8) hours a day or forty (40) hours a week, whichever gives the employee the greater wages. At least time and one-half the base rate is required for all overtime. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. Wage violations or questions should be directed to the designated Engineer or the undersigned.

Rick Stansel, Director
Division of Contract Procurement
Frankfort, Kentucky 40622

TRANSPORTATION CABINET
DEPARTMENT OF HIGHWAYS

LABOR AND WAGE REQUIREMENTS
APPLICABLE TO OTHER THAN FEDERAL-AID SYSTEM PROJECTS

- I. Application
- II. Nondiscrimination of Employees (KRS 344)
- III. Payment of Predetermined Minimum Wages
- IV. Statements and Payrolls

I. APPLICATION

1. These contract provisions shall apply to all work performed on the contract by the contractor with his own organization and with the assistance of workmen under his immediate superintendence and to all work performed on the contract by piecework, station work or by subcontract. The contractor's organization shall be construed to include only workmen employed and paid directly by the contractor and equipment owned or rented by him, with or without operators.

2. The contractor shall insert in each of his subcontracts all of the stipulations contained in these Required Provisions and such other stipulations as may be required.

3. A breach of any of the stipulations contained in these Required Provisions may be grounds for termination of the contract.

II. NONDISCRIMINATION OF EMPLOYEES

AN ACT OF THE KENTUCKY
GENERAL ASSEMBLY TO PREVENT
DISCRIMINATION IN EMPLOYMENT
KRS CHAPTER 344
EFFECTIVE JUNE 16, 1972

The contract on this project, in accordance with KRS Chapter 344, provides that during the performance of this contract, the contractor agrees as follows:

1. The contractor shall not fail or refuse to hire, or shall not discharge any individual, or otherwise discriminate against an individual with respect to his compensation, terms, conditions, or privileges of employment, because of such individual's race, color, religion, national origin, sex, disability or age (between forty and seventy); or limit, segregate, or classify his employees in any way which would deprive or tend to deprive an individual of employment opportunities or otherwise adversely affect his status as an employee, because of such individual's race, color, religion, national origin, sex, disability or age (between forty and seventy). The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.

2. The contractor shall not print or publish or cause to be printed or published a notice or advertisement relating to employment by such an employer or membership in or any classification or referral for employment by the employment agency, indicating any preference, limitation, specification, or discrimination, based on race, color, religion, national origin, sex, disability or age (between forty and seventy), except that such notice or advertisement may indicate a preference, limitation, or specification based on religion, or national origin when religion, or national origin is a bona fide occupational qualification for employment.

3. If the contractor is in control of apprenticeship or other training or retraining, including on-the-job training programs, he shall not discriminate against an individual because of his race, color, religion, national origin, sex, disability or age (between forty and seventy), in admission to, or employment in

any program established to provide apprenticeship or other training.

4. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for non-compliance.

III. PAYMENT OF PREDETERMINED
MINIMUM WAGES

1. These special provisions are supplemented elsewhere in the contract by special provisions which set forth certain predetermined minimum wage rates. The contractor shall pay not less than those rates.

2. The minimum wage determination schedule shall be posted by the contractor, in a manner prescribed by the Department of Highways, at the site of the work in prominent places where it can be easily seen by the workers.

IV. STATEMENTS AND PAYROLLS

1. All contractors and subcontractors affected by the terms of KRS 337.505 to 337.550 shall keep full and accurate payroll records covering all disbursements of wages to their employees to whom they are required to pay not less than the prevailing rate of wages. Payrolls and basic records relating thereto will be maintained during the course of the work and preserved for a period of one (1) year from the date of completion of this contract.

2. The payroll records shall contain the name, address and social security number of each employee, his correct classification, rate of pay, daily and weekly number of hours worked, itemized deductions made and actual wages paid.

3. The contractor shall make his daily records available at the project site for inspection by the State Department of Highways contracting office or his authorized representative.

Periodic investigations shall be conducted as required to assure compliance with the labor provisions of the contract. Interrogation of employees and officials of the contractor shall be permitted during working hours.

Aggrieved workers, Highway Managers, Assistant District Engineers, Resident Engineers and Project Engineers shall report all complaints and violations to the Division of Contract Procurement.

The contractor shall be notified in writing of apparent violations. The contractor may correct the reported violations and notify the Department of Highways of the action taken or may request an informal hearing. The request for hearing shall be in writing within ten (10) days after receipt of the notice of the reported violation. The contractor may submit records and information which will aid in determining the true facts relating to the reported violations.

Any person or organization aggrieved by the action taken or the findings established as a result of an informal hearing by the Division of Contract Procurement may request a formal hearing.

4. The wages of labor shall be paid in legal tender of the United States, except that this condition will be considered satisfied if payment is made by a negotiable check, on a solvent bank, which may be cashed readily by the employee in the local community for the full amount, without discount or collection charges of any kind. Where checks are used for payments, the contractor shall make all necessary arrangements for them to be cashed and shall give information regarding such arrangements.

5. No fee of any kind shall be asked or accepted by the contractor or any of his agents from any person as a condition of employment on the project.

6. No laborers shall be charged for any tools used in performing their respective duties except for reasonably avoidable loss or damage thereto.

7. Every employee on the work covered by this contract shall be permitted to lodge, board, and trade where and with whom he elects and neither the contractor nor his agents, nor his employees shall directly or indirectly require as a condition of employment that an employee shall lodge, board or trade at a particular place or with a particular person.

8. Every employee on the project covered by this contract shall be an employee of either the prime contractor or an approved subcontractor.

9. No charge shall be made for any transportation furnished by the contractor or his agents to any person employed on the work.

10. No individual shall be employed as a laborer or mechanic on this contract except on a wage basis, but this shall not be construed to prohibit the rental of teams, trucks or other equipment from individuals.

No Covered employee may be employed on the work except in accordance with the classification set forth in the schedule mentioned above; provided, however, that in the event additional classifications are required, application shall be made by the contractor to the Department of Highways and (1) the Department shall request appropriate classifications and rates from the proper agency, or (2) if there is urgent need for additional classification to avoid undue delay in the work, the contractor may employ such workmen at rates deemed comparable to rates established for similar classifications provided he has made written application through the Department of Highways, addressed to the proper agency, for the supplemental rates. The contractor shall retroactively adjust, upon receipt of the supplemental rates schedule, the wages of any employee paid less than the established rate and may adjust the wages of any employee overpaid.

11. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any work-week in which he is employed on such work, to work in excess of eight hours in any calendar day or in excess of forty hours in such work-week unless such laborer or mechanic receives compensation at a rate not less than one and one half times his basic rate of pay for all hours worked in excess of eight hours in any calendar day or in excess of forty hours in such work-week. A laborer, workman or mechanic and an employer may enter into a written agreement or a collective bargaining agreement to work more than eight (8) hours a calendar day but not more than ten (10) hours a calendar day for the straight time hourly rate. This agreement shall be in writing and shall be executed prior to the employee working in excess of eight (8) hours, but not more than ten (10) hours, in any one (1) calendar day.

12. Payments to the contractor may be suspended or withheld due to failure of the contractor to pay any laborer or mechanic employed or working on the site of the work, all or part of the wages required under the terms of the contract. The Department may suspend or withhold payments only after the contractor has been given written notice of the alleged violation and the contractor has failed to comply with the wage determination of the Department of Highways.

13. Contractors and subcontractors shall comply with the sections of Kentucky Revised Statutes, Chapter 337 relating to contracts for Public Works.

Revised 2-16-95

EXECUTIVE BRANCH CODE OF ETHICS

In the 1992 regular legislative session, the General Assembly passed and Governor Brereton Jones signed Senate Bill 63 (codified as KRS 11A), the Executive Branch Code of Ethics, which states, in part:

KRS 11A.040 (6) provides:

No present or former public servant shall, within six (6) months of following termination of his office or employment, accept employment, compensation or other economic benefit from any person or business that contracts or does business with the state in matters in which he was directly involved during his tenure. This provision shall not prohibit an individual from returning to the same business, firm, occupation, or profession in which he was involved prior to taking office or beginning his term of employment, provided that, for a period of six (6) months, he personally refrains from working on any matter in which he was directly involved in state government. This subsection shall not prohibit the performance of ministerial functions, including, but not limited to, filing tax returns, filing applications for permits or licenses, or filing incorporation papers.

KRS 11A.040 (8) states:

A former public servant shall not represent a person in a matter before a state agency in which the former public servant was directly involved, for a period of one (1) year after the latter of:

- a) The date of leaving office or termination of employment; or
- b) The date the term of office expires to which the public servant was elected.

This law is intended to promote public confidence in the integrity of state government and to declare as public policy the idea that state employees should view their work as a public trust and not as a way to obtain private benefits.

If you have worked for the executive branch of state government within the past six months, you may be subject to the law's prohibitions. The law's applicability may be different if you hold elected office or are contemplating representation of another before a state agency.

Also, if you are affiliated with a firm which does business with the state and which employs former state executive-branch employees, you should be aware that the law may apply to them.

In case of doubt, the law permits you to request an advisory opinion from the Executive Branch Ethics Commission, Room 136, Capitol Building, 700 Capitol Avenue, Frankfort, Kentucky 40601; telephone (502) 564-7954.

PART IV

INSURANCE

The Contractor shall carry the following insurance in addition to the insurance required by law:

- (1) Contractor's Public Liability Insurance not less than \$100,000.00 for damages arising out of bodily injuries to or death to one person. Not less than \$300,000.00 for damages arising out of bodily injuries to or death to two or more persons.
- (2) Contractor's Property Damages Liability Insurance. Not less than \$100,000.00 for all damages arising out of injury or destruction of property in any one accident. Not less than \$300,000.00 for all damages during the policy period.
- (3) Contractor's Protective Public Liability and Property Damage Insurance. The contractor shall furnish evidence with respect to operations performed for him by subcontractors that he carries in his own behalf for the above stipulated amounts.
- (4) The insurance required above must be evidenced by a Certificate of Insurance and this Certificate of Insurance must contain one of the following statements:
 - a. "policy contains no deductible clauses."
 - b. "policy contains a _____ deductible property
(amount)
damage clause but company will pay claim and collect
the deductible from the insured."
- (5) WORKMEN'S COMPENSATION INSURANCE. The contractor shall furnish evidence of coverage of all his employees or give evidence of self-insurance by submitting a copy of a certificate issued by the Workmen's Compensation Board.

PART V

STATEMENT OF INCOMPLETED WORK

1. Status of Active Prime Contracts.

Attached

THE QUANTITY SHEET(S) REPRESENTS THE ESTIMATED QUANTITIES (ONLY) FOR THE SUBJECT PROJECT.
PROPOSAL(S) MAY NOT BE AVAILABLE WHEN THE QUANTITIES ARE POSTED.
YOUR BID **WILL NOT** BE CONSIDERED IF THESE SHEET(S) ARE MADE A PART OF THE BID PROPOSAL
WHICH YOU SUBMIT TO THE KENTUCKY DEPARTMENT OF HIGHWAYS.

TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 1

PCN: 02-0697

Letting: 10/25/2002

KENTON COUNTY

FD04 059 0017 018-020

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
		ROADWAY QUANTITIES				
1	2230	EMBANKMENT IN PLACE	31,161.00	CU YD		
2	2242	WATER	500.00	M GAL		
3	8100	CONCRETE-CLASS A	0.93	CU YD		
4	8150	STEEL REINFORCEMENT	8.00	LB		
5	2351	GUARDRAIL-STEEL W BEAM-S FACE	2,699.00	LIN FT		
6	2360	GUARDRAIL TERMINAL SECT NO 1	1.00	EACH		
7	2367	GUARDRAIL END TREATMENT TYPE 1	2.00	EACH		
8	2369	GUARDRAIL END TREATMENT TY 2A	2.00	EACH		
9	6510	PAVE STRIPING-TEMP PAINT-4 IN	12,030.00	LIN FT		
10	6514	PAVE STRIPING-PERM PAINT-4 IN	36,620.00	LIN FT		
11	6550	PAVE STRIPING-TEMP REM TAPE-W	1,290.00	LIN FT		
12	6551	PAVE STRIPING-TEMP REM TAPE-Y	1,290.00	LIN FT		
13	6554	PAVE STRIPING-DUR TY 1-4" W	1,828.00	LIN FT		
14	6555	PAVE STRIPING-DUR TY 1-4" Y	1,422.00	LIN FT		
15	6565	PAVE MRKG-THERMO X-WALK-6 INCH	835.00	LIN FT		
16	6567	PAVE MRKG-THERMO STOP BAR-12"	772.00	LIN FT		
17	6569	PAVE MRKG-THERMO CROSS-HATCH	3,160.00	SQ FT		
18	6572	PAVE MRKG-DOTTED LANE EXTEN	797.00	LIN FT		
19	6573	PAVE MRKG-PREF THERM STR ARROV	3.00	EACH		
20	6574	PAVE MRKG-PRE THERM CURV ARROV	74.00	EACH		
21	6575	PAVE MRKG-PRE THERM COMB ARROV	2.00	EACH		

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TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 2

PCN: 02-0697

Letting: 10/25/2002

KENTON COUNTY

FD04 059 0017 018-020

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
22	6589	PAVEMENT MARKER TYPE V - M W	311.00	EACH		
23	6591	PAVEMENT MARKER TYPE V - B Y	292.00	EACH		
24	6592	PAVEMENT MARKER TYPE V - B W/R	20.00	EACH		
25	6593	PAVEMENT MARKER TYPE V - B Y/R	36.00	EACH		
26	2775	FLASHING ARROW	2.00	EACH		
27	2562	SIGNS	248.00	SQ FT		
28	2091	REMOVING PAVEMENT	38.00	SQ YD		
29	0521	STORM SEWER PIPE-15 INCH	1,128.00	LIN FT		
30	0522	STORM SEWER PIPE-18 INCH	875.00	LIN FT		
31	0524	STORM SEWER PIPE-24 INCH	43.00	LIN FT		
32	0526	STORM SEWER PIPE-30 INCH	6.00	LIN FT		
33	0528	STORM SEWER PIPE-36 INCH	399.00	LIN FT		
34	0439	ENTRANCE PIPE-12 INCH	50.00	LIN FT		
35	0440	ENTRANCE PIPE-15 INCH	122.00	LIN FT		
36	1456	CURB BOX INLET TYPE A	17.00	EACH		
37	1490	DROP BOX INLET TYPE 1	4.00	EACH		
38	1499	DROP BOX INLET TYPE 4	1.00	EACH		
39	1511	DROP BOX INLET TYPE 5D	5.00	EACH		
40	1538	DROP BOX INLET TYPE 7	1.00	EACH		
41	1641	JUNCTION BOX-15 INCH	1.00	EACH		
42	1642	JUNCTION BOX-18 INCH	1.00	EACH		
43	1643	JUNCTION BOX-24 INCH	1.00	EACH		

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TRANSPORTATION CABINET
Department of Highways
FRANKFORT, KY 40622

Sheet No: 3
PCN: 02-0697
Letting: 10/25/2002

KENTON COUNTY
FD04 059 0017 018-020

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
44	1647	JUNCTION BOX-48 INCH	1.00	EACH		
45	1645	JUNCTION BOX-36 INCH	1.00	EACH		
46	1792	ADJUSTING MANHOLE	2.00	EACH		
47	5985	SEEDING AND PROTECTION	23,085.00	SQ YD		
48	5953	TEMP SEEDING AND PROTECTION	3,377.00	SQ YD		
49	5989	SPECIAL SEEDING CROWN VETCH	7,500.00	SQ YD		
50	5990	SODDING	10,685.00	SQ YD		
51	5966	TOPDRESSING FERTILIZER	2.00	TON		
52	5950	EROSION CONTROL BLANKET	1,000.00	SQ YD		
53	2705	SILT CHECK	11.00	EACH		
54	2708	CLEAN SILT CHECK	22.00	EACH		
55	2701	TEMPORARY SILT FENCE	1,075.00	LIN FT		
56	2709	CLEAN TEMPORARY SILT FENCE	1,075.00	LIN FT		
57	9277	SILT CHECK TY 2 MOD	14.00	EACH		
58	9278	CLEAN SILT CHECK TY 2 MOD	28.00	EACH		
59	2484	CHANNEL LINING CLASS III	50.00	TON		
60	1810	STANDARD CURB AND GUTTER	4,744.00	LIN FT		
61	2585	EDGE KEY	100.00	LIN FT		
62	2720	SIDEWALK-4 INCH CONCRETE	1,825.00	SQ YD		
63	2101	CEM CONC ENT PAVEMENT-8 INCH	147.00	SQ YD		
64	2069	PCC PAVEMENT-10 INCH NON-REINF	1,753.00	SQ YD		
65	2083	PCC PAVE-10 IN NON-REINF SHLD	813.00	SQ YD		

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TRANSPORTATION CABINET
Department of Highways
FRANKFORT, KY 40622

Sheet No: 4
PCN: 02-0697
Letting: 10/25/2002

KENTON COUNTY
FD04 059 0017 018-020

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
66	2677	ASPH PAVE MILLING & TEXTURING	2,363.00	TON		
67	0003	CRUSHED STONE BASE	13,024.00	TON		
68	0190	LEVELING AND WEDGING PG64-22	1,795.00	TON		
69	0291	EMULSIFIED ASPHALT RS-2	6.50	TON		
70	0100	ASPHALT SEAL AGGREGATE	55.00	TON		
71	0212	CL2 ASPH BASE 1.00D PG64-22	795.00	TON		
72	0214	CL3 ASPH BASE 1.00D PG64-22	13,632.00	TON		
73	0216	CL3 ASPH BASE 1.00D PG76-22	3,929.00	TON		
74	0309	CL2 ASPH SURF 0.50D PG64-22	368.00	TON		
75	0332	CL3 ASPH SURF 0.50A PG76-22	5,451.00	TON		
76	2545	CLEARING AND GRUBBING	1.00	LP SUM		
		(13.9 ACRES)				
77	2726	STAKING	1.00	LP SUM		
78	2650	MAINTAIN AND CONTROL TRAFFIC	1.00	LP SUM		
79	2676	MOBILIZATION FOR MILL & TEXT	1.00	LP SUM		
80	9405	GAS UTILITY COORDINATION	1.00	LP SUM		
		SEWER LINE SUMMARY				
81	1792	ADJUSTING MANHOLE	2.00	EACH		
82	1789	RECONSTRUCTING MANHOLE	1.00	EACH		
		GAS LINE ESTIMATE				
83	9622	INSTALL GAS MAIN	664.00	LIN FT	33.0000	21,912.00
		(PL 4")				

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TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 5

PCN: 02-0697

Letting: 10/25/2002

KENTON COUNTY

FD04 059 0017 018-020

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
84	9622	INSTALL GAS MAIN (PL6")	602.00	LIN FT	35.0000	21,070.00
85	9622	INSTALL GAS MAIN (SWPC 6")	125.00	LIN FT	68.0000	8,500.00
86	9623	INSTALL SERVICE (M-C LONG-SIDE 1" OR 1.25")	5.00	EACH	600.0000	3,000.00
87	9623	INSTALL SERVICE (MC-SHORT-SIDE 1"OR 1.25")	2.00	EACH	400.0000	800.00
88	3466	TIE-IN, 6 INCH	3.00	EACH	2,500.0000	7,500.00
89	3466	TIE-IN, 6 INCH WATER MAIN	6.00	EACH	4,500.0000	27,000.00
90	1105	DUCTILE IRON PIPE-18 INCH (CLASS 52 W/POLYWRAP)	35.00	LIN FT		
91	1111	DUCTILE IRON PIPE-24 INCH (CLASS 52 W/POLYWRAP)	1,103.00	LIN FT		
92	3526	GATE VALVE-6 INCH	1.00	EACH		
93	9037	ANCHORING TEE & BLOCK (24"X24"X6")	1.00	EACH		
94	9040	BEND & BLOCK (6")	1.00	EACH		
95	9040	BEND & BLOCK (18")	4.00	EACH		
96	9040	BEND & BLOCK (24")	10.00	EACH		
97	3479	TIE-INS (18")	2.00	EACH		

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TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 6

PCN: 02-0697

Letting: 10/25/2002

KENTON COUNTY

FD04 059 0017 018-020

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
98	3479	TIE-INS (24")	4.00	EACH		
99	3433	RELOCATE FIRE HYDRANT	5.00	EA		
100	3431	RELOCATE WATER METER	1.00	EACH		
101	3362	COPPER PIPE-1 1/2 INCH	123.00	LIN FT		
102	3438	RECONNECT TO MAIN	4.00	EACH		
103	3437	RECONNECT EXISTING SERVICE	4.00	EACH		
104	3425	ADJUSTING WATER VALVE (ALL SIZES)	21.00	EACH		
105	3427	ADJUSTING WATER METER (ALL SIZES)	2.00	EACH		
106	3426	ADJUSTING FIRE HYDRANT	1.00	EACH		
107	3495	AIR RELEASE VALVE	1.00	EACH		
		SIGNALIZATION QUANTITIES				
108	4873	POLE-45 FT WOODEN	1.00	EACH		
109	4884	ANCHOR	2.00	EACH		
110	4885	MESSENGER-10800 LB	1,745.00	LIN FT		
111	4811	JUNCTION BOX TYPE B	16.00	EACH		
112	4820	TRENCHING AND BACKFILLING	845.00	LIN FT		
113	4895	LOOP SAW SLOT AND FILL	2,908.00	LIN FT		
114	9618	INSTALL SIGNAL (3 LED)	30.00	EACH		
115	9618	INSTALL SIGNAL (4 LED)	3.00	EACH		

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TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 7

PCN: 02-0697

Letting: 10/25/2002

KENTON COUNTY

FD04 059 0017 018-020

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
116	4950	REMOVE SIGNAL EQUIPMENT	5.00	EACH		
117	4931	INSTALL CONTROLLER-TYPE 170	3.00	EACH		
118	4932	INSTALL STEEL STRAIN POLE	12.00	EACH		
119	9224	RELOCATE SIGNAL HEAD	4.00	EACH		
120	4793	CONDUIT-1 1/4 INCH	973.00	LIN FT		
121	4795	CONDUIT-2 INCH	80.00	LIN FT		
122	4830	LOOP WIRE	6,559.00	LIN FT		
123	4840	CABLE-INTERCONNECT	5,342.00	LIN FT		
124	4844	CABLE-NO. 14/5C	3,831.00	LIN FT		
125	4845	CABLE-NO. 14/7C	211.00	LIN FT		
126	4850	CABLE-NO. 14/1 PAIR	5,205.00	LIN FT		
		LIGHTING QUANTITIES				
127	4740	POLE BASE	12.00	EACH		
128	4760	POLE W/SECONDARY CONTROL EQUIP	1.00	EACH		
129	4780	FUSED CONNECTOR KIT	30.00	EACH		
130	4811	JUNCTION BOX TYPE B	7.00	EACH		
131	4820	TRENCHING AND BACKFILLING	2,628.00	LIN FT		
132	4940	REMOVE LIGHTING	1.00	LP SUM		
133	4942	REMOVE, STORE & REINSTALL POLE	12.00	EACH		
134	4793	CONDUIT-1 1/4 INCH	2,497.00	LIN FT		
135	4795	CONDUIT-2 INCH	241.00	LIN FT		
136	4832	WIRE-NO. 12	1,620.00	LIN FT		

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TRANSPORTATION CABINET

Department of Highways

FRANKFORT, KY 40622

Sheet No: 8

PCN: 02-0697

Letting: 10/25/2002

KENTON COUNTY

FD04 059 0017 018-020

Item No.	Code No.	Item	Approximate Quantity	Unit	Unit Price Dollars	Amount Dollars
137	4834	WIRE-NO. 6	3,729.00	LIN FT		
138	4835	WIRE-NO. 4	4,354.00	LIN FT		
139	4836	WIRE-NO. 2	3,613.00	LIN FT		
140	2568	MOBILIZATION	1.00	LP SUM		
141	2569	DEMOBILIZATION	1.00	LP SUM		
142		TOTAL BID			\$.

NON-BIDDING
SHEET

1. STATUS OF ALL INCOMPLETED PRIME CONTRACTS

All active prime contracts must be reported. This includes prime contracts with public and private owners and joint-ventured contracts. The names of the joint venturers must be shown when reporting these projects. A machine or typed listing reporting the status of each contract is acceptable when attached to this report; however, the total amounts on the itemized listing must be reported in the space provided below:

CONTRACT WITH	PROJECT IDENTIFICATION	PRIME CONTRACT AMOUNT	EARNINGS THROUGH LAST APPROVED ESTIMATE	TOTAL AMOUNT OF WORK REMAINING
TOTAL (Attach Summary if not itemized above)		\$	\$	\$

PART VI

BID ITEMS

PART VII

CERTIFICATIONS

- | | | |
|----|---|----------|
| 1. | Provisions Relative to Senate Bill 258 (1994) | Attached |
| 2. | Non-Collusion Certification | Attached |
| 3. | Certification of Bid Proposal | Attached |

PROVISIONS RELATIVE TO SENATE BILL 258 (1994)

During the performance of the contract, the contractor agrees to comply with applicable provisions of:

1. KRS 136 Corporation and Utility Taxes
2. KRS 139 Sale and Use Taxes
3. KRS 141 Income Taxes
4. KRS 337 Wages and Hours
5. KRS 338 Occupational Safety and Health of Employees
6. KRS 341 Unemployment Compensation
7. KRS 342 Workers Compensation

Any final determinations of a violation by the contractor within the previous five (5) years pursuant to the applicable statutes above are revealed as follows:

NON-COLLUSION CERTIFICATION

COMMONWEALTH OF KENTUCKY
COUNTY _____
PROJECT NO. _____

I, _____, _____, under
(Name of officer signing certification) (Title)
penalty of perjury under the laws of the United States, do hereby certify that

(Insert name of Individual, Joint Venture, Co-partnership, or Corporation submitting bid)
its agent, officers or employees have not directly or indirectly entered into any
agreement, participated in any collusion, or otherwise taken action in restraint of free
competitive bidding in connection with this proposal.

(Signature)

(Title)

REVISED: 8-23-89

NON-COLLUSION CERTIFICATION

COMMONWEALTH OF KENTUCKY
COUNTY _____
PROJECT NO. _____

I, _____, _____, under
(Name of officer signing certification) (Title)
penalty or perjury under the laws of the United States, do hereby certify that

(Insert name of Individual, Joint Venture, Co-partnership, or Corporation submitting bid)
its agent, officers or employees have not directly or indirectly entered into any
agreement, participated in any collusion, or otherwise taken action in restraint of free
competitive bidding in connection with this proposal.

(Signature)

(Title)

REVISED: 8-23-89

CERTIFICATION OF BID PROPOSAL

We (I) propose to furnish all labor, equipment and materials necessary to construct and/or improve the subject project in accordance with the plans, the Transportation Cabinet's Standard Specifications for Road and Bridge Construction, current edition, special provisions, notes applicable to the project as indicated herein and all addenda issued on this project subsequent to purchase of proposal.

We (I) attach a bid proposal guaranty as provided in the special provisions in an amount not less than 5% of the total bid. We agree to execute a contract in accordance with this bid proposal within 15 calendar days after the receipt of the notice of award for the project.

We (I) have examined the site of proposed work, project plans, specifications, special provisions, and notes applicable to the project referred to herein. We understand that the quantities shown herein are estimated quantities subject to increase or decrease as provided in the specifications.

Name of Contracting Firm

BY:

Authorized Agent

Title

Address

City

State

Zip Code

Telephone Number

When two or more organizations bid as a joint venture, enter names of each organization and an authorized agent for each organization must sign above.